

# Colorado Department of Public Health and Environment

# **OPERATING PERMIT**

SWG Colorado L.L.C. – Arapahoe Combustion Turbine Facility

**Issued: July 1, 2005** 

# AIR POLLUTION CONTROL DIVISION COLORADO OPERATING PERMIT

**Arapahoe Combustion FACILITY NAME: OPERATING PERMIT NUMBER** 

**Turbine Facility** 

FACILITY ID: 0310008

July 1, 2005

**ISSUE DATE:** 

July 1, 2010 **EXPIRATION DATE:** 

MODIFICATIONS: See Appendix F of Permit

Issued in accordance with the provisions of Colorado Air Pollution Prevention and Control Act, 25-7-101 et seq. and applicable rules and regulations.

**ISSUED TO:** PLANT SITE LOCATION:

SWG Colorado L.L.C. Arapahoe Combustion Turbine Facility

1515 Arapahoe, Tower I, Suite 900 2601 South Platte River Drive Denver, CO 80202 Denver, Colorado 80223

Denver County

01OPDE237

INFORMATION RELIED UPON

Operating Permit Application Received: July 31, 2001 And Additional Information Received: October 23, 2001

Nature of Business: **Electricity Generation** 

Primary SIC: 4911

**RESPONSIBLE OFFICIAL** FACILITY CONTACT PERSON

J.R. Karbowski J.R. Karbowski Name: Name:

Title: **Interim Operations Manager** Title: **Interim Operations Manager** 

SWG Colorado L.L.C.

(713) 780-6027 Phone: (713) 780-6027 Phone:

SUBMITTAL DEADLINES

Semi-Annual Monitoring Period: January 1– June 30, July 1 – December 31

February 1, 2006 and August 1, 2006 and subsequent years Semi-Annual Monitoring Report:

January 1 – December 31 **Annual Compliance Period:** 

SWG Colorado L.L.C.

Annual Compliance Certification: February 1, 2006 and subsequent years

Note that the Semi-Annual Monitoring Report and the Annual Compliance Certification must be received at the Division office by 5:00 p.m. on the due date. Postmarked dates will not be accepted for the purposes of determining the timely receipt of those reports.

# FOR ACID RAIN SUBMITTAL DEADLINES SEE SECTION III.4 OF THIS PERMIT

# **Table of Contents:**

<b>SECT</b>	FION I - General Activities and Summary	1
1.	Permitted Activities	1
2.	Alternative Operating Scenarios	2
3.	Prevention Of Significant Deterioration (PSD)	4
4.	Accidental Release Prevention Program (112(r))	5
5.	Compliance Assurance Monitoring (CAM)	5
6.	Summary of Emission Units	6
SECT	FION II - Specific Permit Terms	
1.	CT005 & CT006 – Two (2) Natural Gas Fired Turbines, 328.6 mmBtu/hr Each	7
SECT	FION III - Acid Rain Requirements	
1.	Designated Representative and Alternate Designated Representative	
2.	Sulfur Dioxide Emission Allowances and Nitrogen Oxide Emission Limitations	
3.	Standard Requirements	
4.	Reporting Requirements	
5.	Comments, Notes and Justifications	27
SECT	FION IV - Permit Shield	28
1.	Specific Non-Applicable Requirements	28
2.	General Conditions	28
SECT	FION V - General Permit Conditions	29
1.	Administrative Changes	29
2.	Certification Requirements	29
3.	Common Provisions	29
4.	Compliance Requirements	33
5.	Emergency Provisions	
6.	Emission Standards for Asbestos	34
7.	Emissions Trading, Marketable Permits, Economic Incentives	34
8.	Fee Payment	35
9.	Fugitive Particulate Emissions	35
10.	Inspection and Entry	35
11.	Minor Permit Modifications	35
12.	New Source Review	35
13.	No Property Rights Conveyed	36
14.	Odor	36
15.	Off-Permit Changes to the Source	36
16.	Opacity	36
17.	Open Burning	36
18.	Ozone Depleting Compounds	36
19.	Permit Expiration and Renewal	36
	Portable Sources.	
21.	Prompt Deviation Reporting	37
22.	Record Keeping and Reporting Requirements	37
23.	Reopenings for Cause	38
24.	Section 502(b)(10) Changes	39
25.	Severability Clause	39

# **Table of Contents:**

26. Significant Permit Modifications	39
27. Special Provisions Concerning the Acid Rain Program	
28. Transfer or Assignment of Ownership	
29. Volatile Organic Compounds	40
30. Wood Stoves and Wood burning Appliances	
APPENDIX A - Inspection Information	
Directions to Plant	
Safety Equipment Required	1
Facility Plot Plan	
List of Insignificant Activities	
Monitoring and Permit Deviation Report - Part I	
Monitoring and Permit Deviation Report - Part II	
Monitoring and Permit Deviation Report - Part III	
APPENDIX D	1
Notification Addresses	
APPENDIX E	1
Permit Acronyms	
APPENDIX F	
Permit Modifications	

# **SECTION I - General Activities and Summary**

#### 1. Permitted Activities

1.1 This facility consists of two combustion turbines used to generate power during intermediate or peak demand periods and is defined under Standard Industrial Classification 4911. These combustion turbines are part of the Arapahoe Combustion Turbine Facility, operated by SWG Colorado L.L.C. Coal fired boilers are part of the Arapahoe Power Plant, operated by Xcel Energy. A separate Operating Permit has been issued for each operating company, however, for permitting purposes the Arapahoe Combustion Turbine Facility and the Arapahoe Power Plant are considered one stationary source. The Arapahoe Combustion Turbine facility consists of two combustion turbine generators (CTGs) configured to selectively operate in a simple-cycle mode (exhausts directly to the atmosphere) or combined cycle mode (exhausting to a Heat Recovery Steam Generators (HRSG) (with integral duct burners)). When operated in a simple-cycle mode, each turbine has a nominal electricity production of 38 MW at maximum capacity. The combined total output of the CTGs and the addition of the steam turbine generators will be up to 130 MW at full load in a combined-cycle mode. Each turbine is rated at a heat input of 328.6 MMBtu/hr. For use during simple and combined cycle modes, each turbine is equipped with a 5 MMBtu/hr natural gas fired inlet air preheater and inlet air cooling systems. Each turbine is equipped with a 124.7 MMBtu/hr natural gas fired HRSG for use during combined cycle mode. The turbines are equipped with water injection to control nitrogen oxide emissions during simple cycle mode, and Selective Catalytic Reduction to control nitrogen oxide emissions and catalytic oxidation to control carbon monoxide emissions during combined cycle mode. In addition, support equipment includes two diesel fired (1600 KW each) backfeed generators for CTG startup, and a 3-cell Cooling Tower.

The facility is located at 2601 South Platte River Drive in Denver. This area was designated nonattainment for ozone effective November 20, 2007 (Federal Register Volume 73, No. 64, dated April 2, 2008).

There are no affected states within 50 miles of the plant. Rocky Mountain National Park is a Federal Class I designated area within 100 kilometers of the plant.

- 1.2 Until such time as this permit expires or is modified or revoked, the permittee is allowed to discharge air pollutants from this facility in accordance with the requirements, limitations, and conditions of this permit.
- 1.3 This Operating Permit incorporates the applicable requirements contained in the underlying construction permits, and does not affect those applicable requirements, except as modified during review of the application or as modified subsequent to permit issuance using the modification procedures found in Regulation No. 3, Part C. These Part C procedures meet all applicable substantive New Source Review Requirements of Part B. Any revisions made using the provisions of Regulation No. 3, Part C shall become new applicable requirements for purposes of this operating permit and shall survive reissuance. This permit incorporates the

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

applicable requirements (except as noted in Section II) from the following construction permit: 99DE0473.

- 1.4 All conditions in this permit are enforceable by US Environmental Protection Agency, Colorado Air Pollution Control Division (hereinafter Division) and its agents, and citizens unless otherwise specified. **State-only enforceable conditions are:** Permit Condition Number(s): Section II, Condition 1.17 (opacity) and Section V Conditions 3.d, 3.d (last paragraph), 14 and 18 (as noted).
- 1.5 All information gathered pursuant to the requirements of this permit is subject to the Recordkeeping and Reporting requirements listed under Condition 22 of the General Conditions in Section V of this permit.

# 2. Alternative Operating Scenarios

The following physical or operational changes to the turbines listed in this permit are not considered a modification for purposes of NSPS GG, NSR/PSD, or Regulation No. 3:

- 1) Replacement of stator blades, turbine nozzles, turbine buckets, fuel nozzles, combustion chambers, seals, and shaft packings, provided that they are of the same design as the original.
- 2) Changes in the type or grade of fuel used, if the original gas turbine installation, fuel nozzles, etc. were designed for its use.
- 3) An increase in the hours of operation (unless limited by a permit condition)
- 4) Variations in operating loads within the engine design specification.

Turbines undergoing any of the above changes are subject to all federally applicable and state-only requirements set forth in this permit (including monitoring and record keeping), and shall be subject to any shield afforded by this permit. If replacement of any of the components listed in (1) above results in a change in serial number for the turbine, a letter explaining the action as well as a revised APEN and appropriate filing fee shall be submitted to the Division within 30 days of the replacement.

Note that the repair or replacement must be genuinely the same design. The Division does not consider that this allows for the entire replacement (or reconstruction) of an existing turbine with an identical new one or one similar in design or function. Rather, the Division considers the repair or replacements to encompass the repair or replacement of components at a turbine with the same (or functionally similar) components. Note that the new components cannot increase the power output capacity of the turbine and still meet the requirements of this exemption.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

The following Alternative Operating Scenario (AOS) for temporary combustion turbine replacement has been reviewed in accordance with the requirements of Regulation No. 3., Part A, Section IV.A, Operational Flexibility-Alternative Operating Scenarios, and Regulation No. 3, Part B, Construction Permits, and has been found to meet all applicable substantive and procedural requirements. This permit incorporates and shall be considered a construction permit for any combustion turbine replacement performed in accordance with this AOS, and the permittee shall be allowed to perform such turbine replacement without applying for a revision to this permit or obtaining a new Construction Permit.

For purposes of Regulation No. 3, Part B, Section IV.G.4.a., any turbine replacement authorized under this AOS shall commence operation upon notation of same in the contemporaneous log as required below. Results of any data collection required below shall be used for comparison to the applicable permitted emission limits.

# 2.1 **Turbine Replacement**

The following alternative operating scenario is incorporated into this permit in order to deal with a turbine breakdown or periodic routine maintenance and repair which requires the temporary replacement of the entire turbine. "Temporary" is defined as in the same service for 270 operating days or less in any 12 month period. The 270 days is the total number of days that the turbine is in operation. If the turbine operates only part of a day, that day counts towards the 270 day total. Note that the compliance demonstrations made as part of this AOS are in addition to any compliance demonstrations required by the permit.

- 2.1.1 The permittee may temporarily replace an existing permitted turbine provided such replacement turbines are GE LM6000 combustion turbines without modifying this permit so long as the annual emissions of NO<sub>x</sub> and CO from the temporary replacement turbine comply with the emission limitations for the existing permitted turbine as described in condition 2.1.2 or 2.1.5 below.
- 2.1.2 The permittee may temporarily replace a grandfathered or permit exempt turbine or a turbine that is not subject to emission limits without modifying this permit. Potential annual emissions of  $NO_x$  and CO from the temporary replacement turbine must be less than or equal to the potential annual emissions of  $NO_x$  and CO from the original grandfathered or permit exempt turbine or for the turbine that is not subject to emission limits, as determined by applying appropriate emission factors.
- 2.1.3 Temporary replacement turbines are subject to all federally applicable and state-only requirements set forth in this permit (including monitoring and record keeping), and shall be subject to any shield afforded by this permit.
- 2.1.4 The permittee shall maintain a log on-site to contemporaneously record the date of any turbine replacement, the manufacturer, model number, and serial number of the turbine(s) that are replaced during the term of this permit, and the manufacturer, model number, and serial number of the replacement turbine. All records related to any testing shall be maintained on-site for five (5) years and made available to the Division upon request.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

2.1.5 In the absence of credible evidence to the contrary, data from the CEM shall be evidence of enforceable compliance or noncompliance of the replacement turbine with any short-term NO<sub>x</sub> and CO emissions limitations of the original turbine.

For comparison with an annual  $NO_x$  and CO emissions limit, data from the CEM shall be used to calculate the actual  $NO_x$  and CO emissions for the time that the engine is operated. Such emissions shall be added to either the rolling 12 month total or the annual emissions, whichever is appropriate in order to monitor compliance.

If the CEM data fails to demonstrate compliance with either the  $NO_x$  or CO emission limitations and in the absence of credible evidence to the contrary, the turbine will be considered to be out of compliance for the purposes of this AOS from the date the replacement turbine commenced operation until the turbine is taken off line. All data that indicates noncompliance shall be submitted to the Division within 14 calendar days after the data is collected.

2.1.6 All data collected pursuant to this AOS shall be kept on site for five (5) years and made available to the Division upon request.

#### 2.2 Additional Sources

Current State Air Quality Regulations do not allow for advanced New Source Review in the absence of discrete and verifiable information concerning future installations. Therefore, any additional operational changes requiring new equipment at this facility not addressed by this AOS will need to undergo appropriate Regulation No. 3 review procedures.

# 3. Prevention Of Significant Deterioration (PSD)

- 3.1 These turbines are located at a fossil fuel-fired steam electric plant of more than 250 million Btu per hour input and the facility is therefore categorized as a major stationary source (Potential to Emit > 100 Tons/Year). Future modifications at this facility resulting in a significant net emissions increase (see Reg 3, Part A, Section I.B.26 and 42) for any pollutant as listed in Regulation No. 3, Part A, Section I.B.42 for which the area is in attainment or attainment/maintenance may result in the application of the PSD review requirements.
- 3.2 This facility is categorized as a NANSR major stationary source (Potential to Emit > 100 tons/year). Future modifications at this facility resulting in a significant net emissions increase (see Regulation No. 3, Part D, Sections II.A.26 and 42) for VOC or NOX or a modification which is major by itself (Potential to Emit > 100 tons/year of either VOC or NOX) may result in the application of the NANSR review requirements.
- 3.3 The following Operating Permits are associated with this facility for purposes of determining applicability of Prevention of Significant Deterioration regulations: 96OPDE136 (issued to Public Service Company of Colorado).

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

# 4. Accidental Release Prevention Program (112(r))

4.1 Based on information provided by the permittee, this facility is not subject to the provisions of the Accidental Release Prevention Program (section 112(r)) of the Federal Clean Air Act.

# **5.** Compliance Assurance Monitoring (CAM)

5.1 The following emission points at this facility use a control device to achieve compliance with an emission limitation or standard to which they are subject and have pre-control emissions that exceed or are equivalent to the major source threshold. They are therefore subject to the provisions of the CAM program as set forth in 40 CFR Part 64, as adopted by reference in Colorado Regulation No. 3, Part C, Section XIV:

None (No large pollutant specific emission units)

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

# 6. Summary of Emission Units

6.1 The emissions units regulated by this permit are the following:

Emission Unit Number	AIRS Stack Number	Facility Identifier	Description	Pollution Control Device
CT005 and CT006	014	S005 and S006	Two General Electric (GE) Model LM6000, Natural Gas Fired Combustion Turbine Generators, Each Rated at 328.6 mmBtu/hr, Serial Numbers: 191-146 (CT5) and 191-145 (CT6). Each turbine equipped with One (1) Heat Recovery Steam Generators with natural gas fired duct burners, each Rated at 124.7 mmBtu/hr.	Combined Cycle: Selective Catalytic Reduction to Control NO <sub>X</sub> Emissions; Catalytic Oxidation to Control CO Emissions (Turbines) Simple Cycle: Water Injection to Control NO <sub>X</sub> Emissions (Turbines)
BG005 and BG006	018	S005C and S006C	Two diesel fired (1600 KW) backfeed generators for turbine startup.	N/A
CL007	016	S007	Marley 3-cell Cooling Tower, Rated at 37,360 GPM.	Drift Eliminators

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

# **SECTION II - Specific Permit Terms**

#### 1. CT005 & CT006 – Two (2) Natural Gas Fired Turbines, 328.6 mmBtu/hr Each

Equipped with One (1) 5 mmBtu/hr Natural Gas Fired Inlet Heater Each
Combined Cycle Mode – Equipped with One (1) 124.7 mmBtu/hr Natural Gas Fired Duct Burner Each
and Steam Turbine Shared by Both Turbine/Duct Burner Combinations
BG005 & BG006 - Two (2) Diesel fired backfeed generators for turbine startup, 1600 KW each
CL007 – Cooling Tower

# Unless Otherwise Specified Limits are for Both Turbines and Duct Burners, Diesel Engines, and Cooling Tower Combined

Parameter	Permit	Permit Limitations Condition		Monitoring		
	Number		Emission Factor	Method	Interval	
PM	1.1	14.90 tons/year	Turbines: 0.0091 lb/mmBtu Turbines/Duct Burners:0.0047	Recordkeeping and Calculation	Monthly	
	1.1.2	For each turbine and duct burner combination: 0.1 lb/MMBtu heat input	lbs/mmBtu Inlet Air Preheaters: 0.0060 lb/mmBtu	Fuel Restriction	Whenever Natural Gas is Used as Fuel	
$PM_{10}$	1.1.1	14.90 tons/year	Backfeed Generators: 1.11 lbs/hour Cooling Tower: See Condition 1.1	Recordkeeping and Calculation	Monthly	
	1.1.3	RACT: Pipeline quality natural gas	N/A	N/A	N/A	

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

Parameter	Permit Condition	Limitations	Compliance Emission	Monito	oring
	Number		Factor	Method	Interval
VOC	1.4.1	7.6 tons/year	Turbine/duct burners: 0.0032 lbs/mmBtu during combined cycle mode; 0.0006 lb/mmBtu during simple cycle mode	Recordkeeping and Calculation	Monthly
			Inlet Air Preheaters: 0.0060 lb/mmBtu		
			Backfeed Generators: 0.88 lb/hour		
VOC	1.4.2	RACT: Simple Cycle: Good combustion practices	N/A	O&M	Continuous
		Combined Cycle: 1.7 lbs/hour		Compliance with CO RACT	
SO <sub>2</sub>	1.2.1	1.30 tons/year	Turbines/duct burners: 0.0006 lb/mmBtu	40 CFR Part 75	As specified in 40 CFR Part 75
			Inlet Air Preheaters: 0.0007	Btu Content	Monthly
			lb/mmBtu Backfeed Generators: 0.93 lb/hr	Diesel: Recordkeeping & Calculation	Monthly
	1.2.2	For each turbine: 150 ppmvd @ 15% O <sub>2</sub> OR Use of Fuel Which Contains Less than 0.8 Weight % Sulfur	N/A	Fuel Restriction	See Condition 1.2.2 –4
	1.2.3	For each turbine: 0.35 lbs/mmBtu, on a 3-hour rolling average			
	1.2.4	For each turbine: 0.35 lb/mmBtu (state-only)			
NO <sub>X</sub>	1.3.3	Simple Cycle Mode:  389.5 ppmvd @ 15% O <sub>2</sub> on a 4-hr rolling average  Combined Cycle Mode:  389.5ppmvd @ 15% O <sub>2</sub> on a 4-hr rolling average	Turbines/duct burners: CEM Inlet Air Preheaters: 0.0362 lb/mmBtu	Continuous Emission Monitor  Diesel Engines: Recordkeeping	Continuously  Monthly
	1.3.2	For each duct burner: 0.20 lb/mmBtu, 30 day rolling average	Back Feed Generators:		

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

Parameter	Permit Condition	Lir	mitations	Compliance Emission	Monito	oring
	Number			Factor	Method	Interval
	1.3.1	39.0 tons/yr		62.556 lbs/hour		
СО	1.5.2	RACT: Simple Cycle: Good combustion practices Combined Cycle: 10 ppmvd @ 15% O <sub>2</sub> on a 1-hr average		Turbines/duct burners: CEM Inlet Air Preheaters:	Continuous Emission Monitor	Continuously
	1.5.1	90.8 tons/yr		0.0387 lb/mmBtu Backfeed Generators: 12.31 lbs/hour	Diesel Engines: Recordkeeping & Calculation	Monthly
Fuel Use, Hours of Operation, Water Circulation	1.6.	See Condition 1.6		N/A	Fuel Meter Diesel Engine: Recordkeeping Cooling Tower: Hours of Operation Emission Calculation	Monthly
Insignificant Activity Emissions	1.7	Include in total emission calculation		Various	Recordkeeping & Calculation	Annually
Continuous Emission Monitoring System Requirements	1.8	N/A	N/A	N/A	See Condi	tion 1.8
NSPS General Provisions	1.9	N/A	NA	N/A	As required in Provis	
Opacity	1.10.1		ed 20% Except as n 1.10.2 and 1.10.3	N/A	Natural gas as fuel Cooling Tower: O&M Diesel Engines: (Start-up) Visual Observations Method 9 .	
	1.10.2	Not to Exceed Periods Aggreg (6) Minutes in	erational Activities – 30%, for a Period or gating More than Six any 60 Consecutive linutes	N/A		
	1.10.3		d 20% (state-only)	N/A		
Acid Rain Requirements	1.11	Se	ee Section III of this Pe	ermit	Certification	Annually
MACT	1.12		Part 1 and	d Part 2 application	submittals	

# 1.1 PM emissions shall not exceed the following limitations:

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

Total emissions of air pollutants from the two (2) natural gas-fired combustion turbine generators (including gas-fired duct burners, diesel backfeed engines, and natural gas-fired inlet air preheaters, and cooling tower) either in simple or combined mode shall not exceed the limitation listed in the table above. Compliance with the annual limit shall be determined on a rolling (12) month total. By the end of each month a new twelve-month total is calculated based on the previous twelve months' data. (Construction Permit 99DE0437 and Colorado Regulation No. 3, Part B, III.A.4) \*PM/PM $_{10}$  includes condensibles

The permittee shall calculate emissions using the emission factors and methods listed in the table above and actual hours of operation, fuel use, and cooling water and TDS data, and maintain a record of rolling twelve month total emissions on site for Division inspection upon request. For cooling tower emission purposes, total solids concentration shall be determined monthly using the measured monthly specific conductivity multiplied by 0.67. A copy of the procedures used to obtain the specific conductivity measurement shall be maintained and made available for inspection upon request.

Emissions from the cooling tower shall be estimated using the equation listed below:

 $PM/PM_{10}$  (lb/hr) = Average Pumping Rate (gal/min) x 60 (min/hr) x 8.33 (lb/gal) x Average TDS (mg/l) x 1/1,000,000 x 0.31 x 0.000005 = 7.7469 x  $10^{-10}$  x Average Pumping Rate x Average TDS (mg/l)

 $PM/PM_{10}$  (tons/month) =  $PM/PM_{10}$  lb/hr x Monthly Operating Hours x 1/2000

1.1.1 For fuel burning equipment with designed heat inputs greater than  $1 \times 10^6$  BTU per hour, but less than or equal to  $500 \times 10^6$  BTU per hour, the following equation will be used to determine the allowable emissions.

For each turbine/duct burner combination: 0.1 lb/mmBtu heat input

(Colorado Regulation No. 1, III.A.1.b and III.A.1.c)

In the absence of credible evidence to the contrary, compliance with the particulate matter emission limits is presumed whenever natural gas is used as fuel in the turbines, air inlet preheaters, and duct burners. For the diesel generators, based on the emission factors used, and in absence of credible evidence to the contrary, compliance with the particulate emission limit is presumed when the emission limits in Condition 1.1.1 are met.

Operation of each stationary natural gas combustion turbine shall comply with Reasonably Available Control Technology (RACT) requirements for PM<sub>10</sub>. (Construction Permit 99DE0473 and Colorado Regulation No. 3, Part B, IV.D.2.d.(i) and (ii)) The Division has determined that the following control technology meets the RACT requirements for both simple cycle and combined cycle operation:

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

Pipeline-quality natural gas shall be used to reduce emission of particulate matter less than 10 micron( $PM_{10}$ ).

# 1.2 Sulfur Dioxide $(SO_2)$ emissions shall not exceed the following limitations:

1.2.1 Total emissions of air pollutants from the two (2) natural gas-fired combustion turbine generators (including gas-fired duct burners, diesel backfeed engines, and natural gas-fired inlet air preheaters) either in simple or combined mode shall not exceed the limitation listed in the table above. Compliance with the annual limit shall be determined on a rolling (12) month total. By the end of each month a new twelvemonth total is calculated based on the previous twelve months' data. (Construction Permit 99DE0473 and Colorado Regulation No. 3, Part B, III.A.4)

Compliance with the SO<sub>2</sub> emission limitations shall be monitored using the monitoring method specified in Condition 40 CFR Part 75, and actual fuel consumption and heating value data (see Condition 1.9). Diesel generator emissions shall be calculated using the actual fuel use and the emission factors listed above. The permittee shall maintain a record of rolling twelve month total emissions on site for Division inspection upon request.

The Btu content of the natural gas used to fuel this equipment shall be determined monthly using the appropriate ASTM Methods or equivalent, if approved by the Division in advance. Calculation of annual emissions outlined under Condition 1.2.1 shall be based on the most recent Btu analysis. The Btu content shall be based on the gross heating value (HHV) of the fuel. In lieu of monthly sampling and analysis, the Btu content of the gas may be determined based on the monthly average of the supplier's analyses, provided that the analyses were conducted using the appropriate ASTM Methods, or equivalent, if approved by the Division in advance.

- 1.2.2 Each turbine is subject to 40 CFR Part 60, Subpart GG Standards of Performance for Stationary Gas Turbines, as adopted by reference in Colorado Regulation No. 6, Part A:
  - 1.2.2.1 No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain sulfur dioxide in excess of 0.015 percent by volume at 15 percent oxygen and on a dry basis (60.333(a)) **OR**
  - 1.2.2.2 No owner or operator subject to the provisions of this subpart shall burn in any stationary gas turbine any fuel which contains sulfur in excess of 0.8 percent by weight (8000 ppmw). (60.333(b))

# **Monitoring of Operations (60.334)**

The owner or operator of any stationary gas turbine subject to the provisions of this subpart shall monitor the total sulfur content of the fuel being fired in the turbine as set forth in 60.334.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

For each affected unit required to periodically determine the fuel sulfur content under this subpart, the owner or operator shall submit reports of excess emissions in accordance with 60.7(c). Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. The purpose of reports required under 60.7(c), periods of excess emissions that shall be reported are defined as set forth in 60.334(j)(2).(60.334(j))

All reports required under 60.7(c) shall be postmarked by the 30<sup>th</sup> day following the end of each calendar quarter. (60.334(j)(5))

#### **Test Methods and Procedures (60.335)**

If the owner or operator is required under 60.334(ii)(1) or (3) to periodically determine the sulfur content of the fuel combusted in the turbine, testing shall be performed as set forth in 60.335(b)(10). Should the permittee so choose, ASTM D5504-94 is approved as the primary method for sulfur monitoring and ASTM D5453-93 as a back-up method for sulfur analysis in lieu of the ASTM standard test methods set forth in Subpart GG. (August 1, 2000 letter from EPA)

In addition, the provisions of 40 CFR Part 60, Subpart A, as set forth in Condition 1.11 of this permit apply.

1.2.3 Sulfur Dioxide (SO<sub>2</sub>) emissions **from each turbine** shall not exceed 0.35 lbs SO<sub>2</sub>/million BTU of heat input. (Colorado Regulation No. 1, Section VI.B.4.c.(ii)). The averaging time for all new source emissions standards for sulfur dioxide shall be three (3) hours, and any three-hour rolling average of emission rates which exceeds these standards is a violation of this regulation. (Colorado Regulation No. 1, VI.B.2)

In the absence of credible evidence to the contrary, compliance with this SO<sub>2</sub> limitation is presumed whenever natural gas is used as fuel in these turbines.

1.2.4 On and after the date on which the required performance test is completed, no owner or operator subject to the provisions of this regulation may discharge, or cause the discharge into the atmosphere sulfur dioxide in excess of:

0.35 lbs SO<sub>2</sub>/million Btu. (Colorado Regulation No. 6, Part B, II.D.3.b – **state-only** requirement)

In addition the provisions of 40 CFR Part 60, Subpart A, apply. (Colorado Regulation No. 6, Part B, I.A)(Note: No stack test is required for this source)

In the absence of credible evidence to the contrary, compliance with this  $SO_2$  limitation is presumed whenever natural gas is used as fuel in these turbines.

1.3 Emissions of Nitrogen Oxides  $(NO_X)$  shall not exceed the following limitations:

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

Last Revised: September 24, 2008

Total emissions of air pollutants from the two (2) natural gas-fired combustion turbine generators (including gas-fired duct burners, diesel backfeed engines, and natural gas-fired inlet air preheaters) either in simple or combined mode shall not exceed the limitation listed in the table above. Compliance with the annual limits shall be determined on a rolling (12) month total. By the end of each month a new twelve-month total is calculated based on the previous twelve months' data. (Construction Permit 99DE0473 and Colorado Regulation No. 3, Part B, III.A.4)

Compliance with the NOx emission limitation shall be monitored using the monitoring method specified in Condition 40 CFR Part 75. The permittee shall calculate emissions using the CEM data, actual preheater air inlet and diesel fuel use, hours of operation, and the emission factors listed above, and maintain a record of rolling twelve month total emissions on site for Division inspection upon request.

1.3.1 Each duct burner is subject to 40 CFR Part 60, Subpart Db – Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units, as adopted by reference in Colorado Regulation No. 6, Part A:

No owner or operator of an affected facility that is subject to the provisions of this subpart and that combusts natural gas shall cause to be discharged into the atmosphere from that affected facility any gases which contain nitrogen oxides (expressed as NO<sub>2</sub>) in excess of 0.20 lb/million Btu. (60.44b(a)(4)(i))

For purposes of 60.44b(i), the nitrogen oxide standards under this section apply at all times including periods of startup, shutdown, or malfunction. (60.44b(h))

Compliance with the emission limits under this section is determined on a 30-day rolling average basis. (60.44b(i))

Compliance with this emission limit shall be monitored using the CEM required in Condition 1.8 of this permit. For purposes of monitoring compliance with this NOx emission limit, hourly NOx data shall be converted to lbs/mmBtu in accordance with the procedures in 40 CFR Part 60, Appendix A, Method 19.

#### Reporting and Recordkeeping Requirements (60.49b)

The owner or operator of an affected facility shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for natural gas for each calendar quarter. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. (60.49b(d))

The owner or operator of an affected facility subject to the nitrogen oxide standards under 60.44b shall maintain records of the information set forth in 60.49b(g) for each steam generating unit operating day.

The owner or operator of any affected facility subject to the continuous monitoring requirements for nitrogen oxides under 60.48b(b) shall submit a quarterly report

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

Last Paris de Santon have 24, 2008

containing the information recorded under 60.49b(g). All quarterly reports shall be postmarked by the 30<sup>th</sup> day following the end of each calendar quarter.(60.48b(i))

In addition, each duct burner is subject to the provisions of 40 CFR Part 60, Subpart A, as set forth in Condition 1.9 of this permit.

1.3.2 Each turbine is subject to 40 CFR Part 60, Subpart GG – Standards of Performance for Stationary Gas Turbines, as adopted by reference in Colorado Regulation No. 6, Part A.

No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine any gases which contain nitrogen oxides in excess of 389.5 percent by volume at 15 percent oxygen and on a dry basis. (60.332(a)(1))

## **Monitoring of Operations (60.334)**

The CEMS required by Condition 1.8 of this permit shall be used to monitor compliance with the NOx emission limit. Note: The missing data substitution methodology provided for at 40 CFR Part 75, Subpart D, is not required for purposes of identifying excess emissions. Instead, periods of missing CEMS data are to be reported as monitor downtime in the excess emissions and monitoring performance report required in 60.7(c). (60.334(b)(3)(iii))

For each affected unit required to continuously monitor emissions under this subpart, the owner or operator shall submit reports of excess emissions and monitor downtime in accordance with 60.7(c). Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For purpose of reports required under 60.7(c), periods of excess emissions that shall be reported are defined as set forth in 60.334(j)(1)(iii).

All reports required under 60.7(c) shall be postmarked by the 30<sup>th</sup> day following the end of each calendar quarter. (60.334(j)(5))

In addition, the provisions of 40 CFR Part 60, Subpart A, as set forth in Condition 1.9 of this permit apply.

#### 1.4 Emissions of Volatile Organic Compounds (VOC) shall not exceed the following limitation:

Total emissions of air pollutants from the two (2) natural gas-fired combustion turbine generators (including gas-fired duct burners, diesel backfeed engines, and natural gas-fired inlet air preheaters) either in simple or combined mode shall not exceed the limitation listed in the table above. Compliance with the annual limits shall be determined on a rolling (12) month total. By the end of each month a new twelve-month total is

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

calculated based on the previous twelve months' data. (Construction Permit 99DE0473 and Colorado Regulation No. 3, Part B, III.A.4)

The permittee shall calculate emissions using the emission factors and methods listed in the table above and actual hours of operation, and maintain a record of rolling twelve month total emissions on site for Division inspection upon request.

1.4.1 Operation of each stationary natural gas combustion turbine shall comply with Reasonably Available Control Technology (RACT) requirements for VOC. (Colorado Regulation No. 3, Part B, IV.D.2.d.(I) and (ii) and Colorado Regulation No. 7) The Division has determined that the following control technology meets the RACT requirements:

Simple cycle operation: Good combustion practices and pipeline-quality natural gas shall be used to reduce emission of volatile organic compounds (VOC). The good operating practices shall be in written form, and shall be maintained on site for Division inspection upon request.

Combined cycle operation: Catalytic oxidation and pipeline quality natural gas shall be used to reduce emission of volatile organic compounds (VOC) to 1.7 lbs/hour.

In the absence of credible evidence to the contrary, compliance with these VOC RACT requirements is assumed when the CO RACT requirements are met.

#### 1.5 Emissions of Carbon Monoxide (CO) shall not exceed the following limitations:

Total emissions of air pollutants from the two (2) natural gas-fired combustion turbine generators (including gas-fired duct burners, diesel backfeed engines, and natural gas-fired inlet air preheaters) either in simple or combined mode shall not exceed the limitation listed in the table above. Compliance with the annual limits shall be determined on a rolling (12) month total. By the end of each month a new twelve-month total is calculated based on the previous twelve months' data. (Construction Permit 99DE0473 and Colorado Regulation No. 3, Part B, III.A.4)

Compliance with the CO emission limitation shall be monitored using the monitoring method specified in Condition 40 CFR Part 75. The permittee shall calculate emissions using the CEM data, and emission factors listed above and actual hours of operation, and maintain a record of rolling twelve month total emissions on site for Division inspection upon request. Until combined cycle operation commences, simple cycle operation shall comply with the annual limit.

1.5.1 Operation of each stationary natural gas combustion turbine shall comply with Reasonably Available Control Technology (RACT) requirements for CO. (Construction Permit 99DE0473 and Colorado Regulation No. 3, Part B, IV.D.2.d.(i) and (ii)) The Division has determined that the following control technology meets the RACT requirements:

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

Simple cycle operation: Good combustion practices shall be used to minimize CO emissions. The applicant shall monitor and control several operating parameters which will constitute "good combustion practices." These operating parameters, which are indicative of turbine performance with respect to CO emissions include, but are not limited to air and fuel ratio, level of excess air and concentration of CO in the flue gas. The optimal operating ranges of these parameters shall be established and identified and shall be submitted to the Division for approval within three months of the issuance date of this permit.

Combined cycle operation: Catalytic oxidation shall be used to limit CO emissions to 10 ppmvd @ 15% O<sub>2</sub> when operating in combined cycle mode.

The CO RACT concentration limit in the stack shall not apply during periods of start-up or shutdown. For purposes of this permit condition only, periods of start-up are defined as periods from initial fuel input to the combustion turbine (CT) to the time the CO catalyst reaches 486 °F, or 123 minutes from initial fuel input, whichever comes first. In the event that the startup ends within a clock hour or the shutdown begins within a clock hour, all non-startup and/or non-shutdown concentration (ppm) data points within that clock hour shall be averaged together to generate the average CO concentration and that average concentration shall be compared to the 10 ppmvd limitation in this Condition 1.5.2. Manufacturer's recommendations and procedures and good engineering practices shall be used to bring the catalyst to full temperature as quickly as possible. The procedures and practices shall be in written form, available for Division inspection upon request. For purposes of this permit condition only, periods of shutdown are defined as periods of continuous reduction in load, beginning when CT emissions exceed the limits until the fuel is shut off to the turbine. Records of the dates, times, and length of each startup and shutdown period shall be maintained for Division inspection upon request.

- The total amount of natural gas, diesel fuel, and cooling tower water consumed by all equipment subject to this permit resulting in the emissions of criteria pollutants and hazardous air pollutants (HAPs) shall be limited by the emissions limits specified in Conditions 1.1.1, 1.2.1, 1.3.1, 1.4.1, and 1.5.1. The total hours of operation for all equipment subject to this permit resulting in the emissions of criteria pollutants and hazardous air pollutants (HAPs) shall be limited by the emission limits specified in Conditions 1.1.1, 1.2.1, 1.3.1, 1.4, and 1.5.1. The permittee shall record the consumption of natural gas, diesel fuel, cooling water flow rate, actual hours of operation, and TDS data, and determine the emissions of pollutants generated from such consumption and hours of operation using continuous emission monitors or Division-approved emission factors (listed in the Table above). The record keeping shall be accomplished on a rolling twelve-month total. Each month a new twelve month rolling total shall be calculated using the previous twelve months data. Records shall be maintained on site for Division inspection upon request. (Construction Permit 99DE0473, revised in accordance with Section I, Condition 1.3 of this permit)
- 1.7 PM<sub>10</sub>, NOx, and CO emissions from all insignificant activities shall be included in determining compliance with the emission limits set forth in Conditions 1.1.1, 1.3.1, and 1.5.1. The applicant shall track emissions from all PM<sub>10</sub>, NOx, and CO emitting insignificant activities on a yearly basis. This information shall be kept on site and made available to the Division upon request. For

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

the purposes of this condition, insignificant activities shall be defined as any activity or equipment, which emits any amount but does not require an Air Pollution Emission Notice (APEN). (Construction Permit 99DE0473)

#### 1.8 Each combustion turbine shall be equipped with:

- 1.8.1 Natural gas fuel flow meter to monitor and record natural gas fuel consumption; and
- 1.8.2 Continuous emission monitoring (CEM) systems to continuously monitor the flue gas and record:
  - 1.8.2.1 NO<sub>x</sub> and CO concentrations (hourly average) in parts per million by volume, dry basis (ppmvd), and
  - 1.8.2.2 Oxygen (hourly average) concentration in percent by volume, dry basis (%O<sub>2</sub> ppmvd).

The CEM systems shall provide emission data to measure the quarterly and annual (12-month rolling basis) emissions rates of  $NO_x$  and CO to be used in determining compliance with emission limits. Records shall be kept noting if the turbines are operating in simple or combined cycle mode.

The CEM systems shall meet the equipment, installation and performance specifications of 40 CFR Part 75, Appendix A and the quality assurance and quality control procedures of 40 CFR Part 75, Appendix B, except that the quarterly calibration gas linearity audits are not required for the CO monitor. CO monitors shall be operated and maintained in accordance with 40 CFR Part 60 Appendix F or alternative Division-approved quality assurance and quality control procedures.

The quality assurance/quality control plan required by 40 CFR Part 75, Appendix B shall be maintained on site and made available to the Division for inspection upon request. Revisions shall be made to the plan at the requirement of the Division.

When quality assured data is not available for oxides of nitrogen ( $NO_x$ ) and carbon monoxide (CO), the missing data substitution procedures set forth in 40 CFR Part 75 shall be followed. Although carbon monoxide emissions are not specifically referenced in the Part 75 procedures, the CEM data acquisition system shall be programmed to substitute carbon monoxide emissions using the procedures specified in 40 CFR Part 75. The CEM systems shall provide emission data in tons/year based on twelve-month rolling total to be used in determining compliance with annual emission limits for  $NO_x$  and CO.

Operation and maintenance of each CEM system is subject to the provisions of 40 CFR Part 60, Subpart A (General Provisions), Section 6.13 (Monitoring Requirements), as adopted by reference in Colorado Regulation No. 6, Part A. quality assurance/quality control shall conform

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

to 40 CFR Part 60, Appendix F, and Subpart A. CEM data shall be reported to the Division on a quarterly basis to include all exceedances of the concentration and emissions limits.

The permittee shall follow the CEMs operational and data quality assurance plan approved by the Division.

(Construction Permit 99DE0473)

# 1.9 Regulation No. 6, Part A, Subpart A, General Provisions

This Subpart applies as indicated in the Conditions listed above.

#### **Notification and Recordkeeping**

- 1.9.1 Any owner or operator subject to the provisions of this part shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. (60.7(b))
- 1.9.2 Each owner or operator required to install a continuous monitoring system (CMS) or monitoring device shall submit an excess emissions and monitoring systems performance report (excess emissions are defined in applicable subparts) and/or a summary report form as set forth in 60.7(c).
- 1.9.3 Any owner or operator subject to the provisions of this part shall maintain a file of all measurements, including continuous monitoring system, system device, and performance test measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. (60.7(f))

#### Compliance with standards and maintenance requirements

1.9.4 At all times, including periods of startup, shutdown, and malfunction, owners and operators shall to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. (60.11(d))

#### Circumvention

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

1.9.5 No article, machine, equipment or process shall be used to conceal an emission which would otherwise constitute a violation of an applicable standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gasses discharged to the atmosphere. (60.12)

# **Monitoring requirements**

- 1.9.6 All continuous monitoring systems shall be subject to the provisions under 40 CFR Part 60, Appendix B and, if the continuous monitoring system is used to demonstrate compliance with emission limits on a continuous basis, 40 CFR Part 60, Appendix F. (60.13(a))
- 1.9.7 All continuous monitoring systems and monitoring devices shall be installed and operational prior to conducting performance tests under 60.8. Verification of operational status shall as a minimum, include completion of the manufacturer's written requirements or recommendations for installation, operation, and calibration of the device. (60.13(b))
- 1.9.8 Owners and operators of all continuous emission monitoring systems installed in accordance with the provisions of 40 CFR Part 60 shall check the zero and span calibration drifts as set forth in 60.13(d).
- 1.9.9 Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 60.13(d), all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation as set forth in 60.13(e).
- 1.9.10 All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of 40 CFR Part 60, Appendix B shall be used. (60.13(f))
- 1.9.11 1-hour averages shall be computed from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under 60.13(h). An arithmetic or integrated average of all data may be used. The data may be recorded in reduced or nonreduced form (e.g., ppm pollutant and percent O<sub>2</sub> or ng/J of pollutant). All excess emissions shall be converted into units of the standard using the applicable conversion procedures specified in the subparts. After conversion into units of the standard, the data may be rounded to the same number of significant digits as used in the applicable subparts to specify the emission limit. (60.13(h))

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

#### 1.10 Opacity Limits

1.10.1 Except as provided for in Condition 1.10.2 and 1.10.3 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity. Visible emissions shall be measured by EPA Method 9 (40 CFR, Part 60, Appendix A (July, 1992)) in all subsections of Section II.A of this regulation. (Colorado Regulation No. 1, Section II.A.1). This opacity standard applies to each air preheater, each turbine and/or turbine/duct burner combination, to each diesel generator, and to the cooling tower.

In the absence of credible evidence to the contrary, compliance with the 20% opacity limit shall be presumed whenever natural gas is used as fuel for the air preheaters, turbine and/or turbine/duct burner combination.

For the diesel generators, the permittee shall perform a visual inspection of the source stack (during daylight hours), when the diesel generators are used beyond turbine startup. The visual inspection shall last at least six minutes. When visible emissions persist for more than six (6) minutes, an EPA Reference Method 9 observations shall be performed within one-half hour. Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, exceedance of the limit shall be considered to exist from the time a Method 9 reading is taken that shows an exceedance of the opacity limit until a Method 9 reading is taken that shows the opacity is less than the opacity limit. During turbine startup, in the absence of credible evidence to the contrary, compliance with the opacity limit shall be presumed when the manufacturer's operation and maintenance recommendations and good engineering practices are used.

Records of the results of visible observations, EPA Reference Method 9 readings, and a copy of the EPA Reference Method 9 reader's certification shall be kept on site and made available to the Division upon request. Copies of any observations exceeding the applicable standard(s) shall be submitted with the next scheduled report.

In the absence of credible evidence to the contrary, compliance with the opacity standard shall be presumed, provided the drift eliminators on the tower are maintained and operated in accordance with manufacturers' requirements and good engineering practices. The recommendations and practices shall be in written format, and shall be maintained on site for Division inspection upon request.

1.10.2 No owner or operator of a source shall allow or cause to be emitted into the atmosphere any air pollutant resulting from the building of a new fire, cleaning of fire boxes, soot blowing, start-up, process modifications, or adjustment or occasional cleaning of control equipment which is in excess of 30% opacity for a period or periods aggregating more than six (6) minutes in any sixty (60) consecutive minutes (Colorado Regulation No. 1, Section II.A.4). This opacity standard applies to each air preheater, each turbine and/or turbine/duct burner combination, each diesel generator, and the cooling tower.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

In the absence of credible evidence to the contrary, compliance with the 30% opacity limit shall be presumed whenever natural gas is used as fuel for the air preheaters, turbines and duct burners.

For the diesel generators, in the absence of credible evidence to the contrary, compliance with this opacity limit will be presumed when the manufacturer's recommendations and good engineering practices for startup are followed. The recommendations and practices shall be in written format, and shall be maintained on site for Division inspection upon request.

In the absence of credible evidence to the contrary, compliance with the opacity standard shall be presumed, provided the drift eliminators on the tower are maintained and operated in accordance with manufacturers' requirements and good engineering practices. The recommendations and practices shall be in written format, and shall be maintained on site for Division inspection upon request.

1.10.3 No owner or operator may discharge, or cause the discharge into the atmosphere of any particulate matter which is greater than 20% opacity (Colorado Regulation No. 6, Part B, Section II.C.3 – **state-only** requirement). This opacity standard applies to **each air preheater, each turbine and/or duct burner combination, each diesel generator, and the cooling tower.** 

This opacity standard applies at all times except during periods of startup, shutdown and malfunction (40 CFR Part 60 Subpart A § 60.11(c), as adopted by reference in Colorado Regulation No. 6, Part B, Section I.A). In addition, the provisions of 40 CFR Part 60, Subpart A as set forth in Condition 1.11 of this permit apply. (Colorado Regulation No. 6, Part B, I.A)

In the absence of credible evidence to the contrary, compliance with the 20% opacity requirement is presumed whenever natural gas is used as fuel for the air preheaters, turbines and duct burners.

For the diesel generators, the permittee shall perform a visual inspection of the source stack during startup, when the generators are used for turbine startup, and at least twice per day (during daylight hours), when the diesel generators are used beyond turbine startup. When visible emissions persist for more than six (6) minutes, an EPA Reference Method 9 observations shall be performed within one-half hour. Subject to the provisions of C.R.S. 25-7-123.1 and in the absence of credible evidence to the contrary, exceedance of the limit shall be considered to exist from the time a Method 9 reading is taken that shows an exceedance of the opacity limit until a Method 9 reading is taken that shows the opacity is less than the opacity limit.

Records of the results of visible observations, EPA Reference Method 9 readings, and a copy of the EPA Reference Method 9 reader's certification shall be kept on site and made available to the Division upon request. Copies of any observations exceeding the applicable standard(s) shall be submitted with the next scheduled report.

In the absence of credible evidence to the contrary, compliance with the opacity standard shall be presumed, provided the drift eliminators on the tower are maintained and operated in accordance

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

Local Region of September 24, 2008

SWG Colorado L.L.C. Arapahoe Combustion Turbine Facility Page 22

with manufacturers' requirements and good engineering practices. The recommendations and practices shall be in written format, and shall be maintained on site for Division inspection upon request.

1.11 These units are subject to the Title IV Acid Rain Requirements. As specified in 40 CFR Part 72.72(b)(1)(viii), the acid rain permit requirements shall be complete and segregable portion of the Operating Permit. As such the requirements are found in Section III of this permit. A copy of the annual compliance certification required by 40 CFR Part 72 § 72.90, shall be submitted to the Division as specified in Section III.4 of this permit.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

## **SECTION III - Acid Rain Requirements**

#### 1. Designated Representative and Alternate Designated Representative

Designated Representative: Alternate Designated Representative:

Name: Jerry Burke Name: N/A

Title: Manager Title:

Phone: (303) 928-4400 Phone:

#### 2. Sulfur Dioxide Emission Allowances and Nitrogen Oxide Emission Limitations

Combustion Turbine Unit No. 5	2000	2001	2002	2003	2004	2005
SO <sub>2</sub> Allowances, per 40 CFR Part 73.10(b), Table 2	0*	0*	0*	0*	0*	0*
NO <sub>X</sub> Limits		This Unit Has No NO <sub>X</sub> Limits (See Section 5)				

<sup>\*</sup> Under the provisions of § 72.84(a) any allowance allocations to, transfers to and deductions from an affected unit's Allowance Tracking System account is considered an automatic permit amendment and as such no revision to the permit is necessary. Numerical allowances shown in this table are from the 1996 edition of the CFR.

Combustion Turbine Unit No. 6	2000	2001	2002	2003	2004	2005
SO <sub>2</sub> Allowances, per 40 CFR Part 73.10(b), Table 2	0*	0*	0*	0*	0*	0*
NO <sub>X</sub> Limits		This Unit Has No NO <sub>X</sub> Limits (See Section 5)				

<sup>\*</sup> Under the provisions of § 72.84(a) any allowance allocations to, transfers to and deductions from an affected unit's Allowance Tracking System account is considered an automatic permit amendment and as such no revision to the permit is necessary. Numerical allowances shown in this table are from the 1996 edition of the CFR.

#### 3. Standard Requirements

Combustion Turbines No. 5 and 6 of this facility are subject to and the source has certified that they will comply with the following standard conditions.

#### Permit Requirements.

- (1) The designated representative of each affected source and each affected unit at the source shall:
  - i) Submit a complete Acid Rain permit application (including a compliance plan) under 40 CFR part 72 in accordance with the deadlines specified in 40 CFR 72.30; and
  - ii) Submit in a timely manner any supplemental information that the Division determines is necessary in order to review an Acid Rain permit application and issue or deny an Acid Rain permit;

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

- (2) The owners and operators of each affected source and each affected unit at the source shall:
  - i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the Division; and
  - ii) Have an Acid Rain Permit.

# Monitoring Requirements.

- (1) The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75.
- The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to (2) determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program.
- (3) The requirements of 40 CFR part 75 shall not affect the responsibility of the owners and operators to monitor emissions of other pollutants or other emissions characteristics at the unit under other applicable requirements of the Federal Clean Air Act and other provisions of the operating permit for the source.

#### Sulfur Dioxide Requirements.

- The owners and operators of each source and each affected unit at the source shall: (1)
  - Hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount i) (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and
  - ii) Comply with the applicable Acid Rain emissions limitations for sulfur dioxide.
- Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide (2) shall constitute a separate violation of the Federal Clean Air Act.
- (3) An affected unit shall be subject to the requirements under paragraph (1) of the sulfur dioxide requirements as follows:
  - i) Starting January 1, 2000, an affected unit under 40 CFR 72.6(a)(2); or
  - Starting on the later of January 1, 2000 or the deadline for monitor certification under 40 CFR ii) part 75, an affected unit under 40 CFR 72.6(a)(3).
- (4) Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program.
- (5) An allowance shall not be deducted in order to comply with the requirements under paragraph (1) of the sulfur dioxide requirements prior to the calendar year for which the allowance was allocated.

Operating Permit Number: 01OPDE237 **Issued: July 1, 2005** 

- An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7, 72.8 or 72.14 and no provision of law shall be construed to limit the authority of the United States to terminate or limit such authorization.
- (7) An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right.

<u>Nitrogen Oxides Requirements</u>. The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides.

#### Excess Emissions Requirements.

- (1) The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan to the Administrator of the U. S. EPA, as required under 40 CFR part 77.
- (2) The owners and operators of an affected unit that has excess emissions in any calendar year shall:
  - i) Pay without demand, to the Administrator of the U. S. EPA, the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR part 77; and
  - ii) Comply with the terms of an approved offset plan, as required by 40 CFR part 77.

### Recordkeeping and Reporting Requirements.

- (1) Unless otherwise provided, the owners and operators of the source and each affected unit at the source shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 5 years, in writing by the Administrator or the Division:
  - i) The certificate of representation for the designated representative for the source and each affected unit at the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site at the source beyond such 5-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative;
  - ii) All emissions monitoring information, in accordance with 40 CFR part 75, provided that to the extent that 40 CFR part 75 provides for a 3-year period for recordkeeping, the 3-year period shall apply.
  - iii) Copies of all reports, compliance certifications, and other submissions and all records made or required under the Acid Rain Program; and,
  - iv) Copies of all documents used to complete an Acid Rain permit application and any other submission under the Acid Rain Program or to demonstrate compliance with the requirements of the Acid Rain Program.

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

Last Paris de Sentember 24, 2008

(2) The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR part 72 subpart I and 40 CFR part 75.

#### Liability.

- (1) Any person who knowingly violates any requirement or prohibition of the Acid Rain Program, a complete Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7, 72.8 or 72.14, including any requirement for the payment of any penalty owed to the United States, shall be subject to enforcement pursuant to section 113(c) of the Federal Clean Air Act.
- (2) Any person who knowingly makes a false, material statement in any record, submission, or report under the Acid Rain Program shall be subject to criminal enforcement pursuant to section 113(c) of the Federal Clean Air Act and 18 U.S.C. 1001.
- (3) No permit revision shall excuse any violation of the requirements of the Acid Rain Program that occurs prior to the date that the revision takes effect.
- (4) Each affected source and each affected unit shall meet the requirements of the Acid Rain Program.
- (5) Any provision of the Acid Rain Program that applies to an affected source (including a provision applicable to the designated representative of an affected source) shall also apply to the owners and operators of such source and of the affected units at the source.
- (6) Any provision of the Acid Rain Program that applies to an affected unit (including a provision applicable to the designated representative of an affected unit) shall also apply to the owners and operators of such unit. Except as provided under 40 CFR 72.44 (Phase II repowering extension plans) and 40 CFR 76.11 (NO<sub>X</sub> averaging plans), and except with regard to the requirements applicable to units with a common stack under 40 CFR part 75 (including 40 CFR 75.16, 75.17, and 75.18), the owners and operators and the designated representative of one affected unit shall not be liable for any violation by any other affected unit of which they are not owners or operators or the designated representative and that is located at a source of which they are not owners or operators or the designated representative.
- (7) Each violation of a provision of 40 CFR parts 72, 73, 74, 75, 76, 77, and 78 by an affected source or affected unit, or by an owner or operator or designated representative of such source or unit, shall be a separate violation of the Federal Clean Air Act.

<u>Effect on Other Authorities</u>. No provision of the Acid Rain Program, an Acid Rain permit application, an Acid Rain permit, or a written exemption under 40 CFR 72.7, 72.8 or 72.14 shall be construed as:

(1) Except as expressly provided in title IV of the Federal Clean Air Act, exempting or excluding the owners and operators and, to the extent applicable, the designated representative of an affected source or affected unit from compliance with any other provision of the Federal Clean Air Act, including the provisions of title I of the Federal Clean Air Act relating to applicable National Ambient Air Quality Standards or State Implementation Plans;

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

- (2) Limiting the number of allowances a unit can hold; provided, that the number of allowances held by the unit shall not affect the source's obligation to comply with any other provisions of the Federal Clean Air Act;
- (3) Requiring a change of any kind in any State law regulating electric utility rates and charges, affecting any State law regarding such State regulation, or limiting such State regulation, including any prudence review requirements under such State law;
- (4) Modifying the Federal Power Act or affecting the authority of the Federal Energy Regulatory Commission under the Federal Power Act; or,
- (5) Interfering with or impairing any program for competitive bidding for power supply in a State in which such program is established.

# 4. Reporting Requirements

Reports shall be submitted to the addresses identified in Appendix D.

Pursuant to 40 CFR Part 75.64 quarterly reports and compliance certification requirements shall be submitted to the Administrator **within 30 days after the end of the calendar quarter**. The contents of these reports shall meet the requirements of 40 CFR 75.64.

Pursuant to 40 CFR Part 72.90 (as adopted by reference in Colorado Regulation 18) annual reports and compliance certifications shall be submitted to the Administrator within 60 days after the end of the calendar year. The contents of these reports shall meet the requirements of 40 CFR 72.90. A copy of the compliance certification shall also be submitted to the Division.

Revisions to this permit shall be made in accordance with 40 CFR Part 72, Subpart H, §§ 72.80 through 72.85 (as adopted by reference in Colorado Regulation 18). Permit modification requests shall be submitted to the Division at the address identified in Appendix A.

#### 5. Comments, Notes and Justifications

Combustion Turbines No. 5 and 6 burn natural gas only. The  $NO_X$  limitations in 40 CFR Part 76 are only applicable to coal-fired utility units.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

#### **SECTION IV - Permit Shield**

Regulation No. 3, 5 CCR 1001-5, Part A, § I.B.43; Part C, §§ V.C.1.b. & D., XIII; §§ 25-7-111(2)(I), 25-7-114.4(3)(a), C.R.S.

#### 1. Specific Non-Applicable Requirements

Based on the information available to the Division and supplied by the applicant, the following parameters and requirements have been specifically identified as non-applicable to the facility to which this permit has been issued. This shield does not protect the source from any violations that occurred prior to or at the time of permit issuance. In addition, this shield does not protect the source from any violations that occur as a result of any modifications or reconstruction on which construction commenced prior to permit issuance.

No parameters or requirements have been specifically identified in the application as non-applicable to this facility.

#### 2. General Conditions

Compliance with this Operating Permit shall be deemed compliance with all applicable requirements specifically identified in the permit and other requirements specifically identified in the permit as not applicable to the source. This permit shield shall not alter or affect the following:

- 2.1 The provisions of §§ 25-7-112 and 25-7-113, C.R.S., or § 303 of the federal act, concerning enforcement in cases of emergency;
- 2.2 The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- 2.3 The applicable requirements of the federal Acid Rain Program, consistent with § 408(a) of the federal act;
- 2.4 The ability of the Air Pollution Control Division to obtain information from a source pursuant to § 25-7-111(2)(I), C.R.S., or the ability of the Administrator to obtain information pursuant to § 114 of the federal act;
- 2.5 The ability of the Air Pollution Control Division to reopen the Operating Permit for cause pursuant to Regulation No. 3, Part C, § XIII.
- 2.6 Sources are not shielded from terms and conditions that become applicable to the source subsequent to permit issuance.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

#### **SECTION V - General Permit Conditions**

#### 1. Administrative Changes

Regulation No. 3, 5 CCR 1001-5, Part A, § III.

The permittee shall submit an application for an administrative permit amendment to the Division for those permit changes that are described in Regulation No. 3, Part A, § I.B.36.a. The permittee may immediately make the change upon submission of the application to the Division.

#### 2. Certification Requirements

#### Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.B.9., V.C.16.a.& e. and V.C.17.

- a. Any application, report, document and compliance certification submitted to the Air Pollution Control Division pursuant to Regulation No. 3 or the Operating Permit shall contain a certification by a responsible official of the truth, accuracy and completeness of such form, report or certification stating that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
- b. All compliance certifications for terms and conditions in the Operating Permit shall be submitted to the Air Pollution Control Division at least annually unless a more frequent period is specified in the applicable requirement or by the Division in the Operating Permit.
- c. Compliance certifications shall contain:
  - (i) the identification of each permit term and condition that is the basis of the certification;
  - (ii) the compliance status of the source;
  - (iii) whether compliance was continuous or intermittent;
  - (iv) method(s) used for determining the compliance status of the source, currently and over the reporting period; and
  - (v) such other facts as the Air Pollution Control Division may require to determine the compliance status of the source.
- d. All compliance certifications shall be submitted to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit.
- e. If the permittee is required to develop and register a risk management plan pursuant to § 112(r) of the federal act, the permittee shall certify its compliance with that requirement; the Operating Permit shall not incorporate the contents of the risk management plan as a permit term or condition.

#### 3. Common Provisions

# Common Provisions Regulation, 5 CCR 1001-2 §§ II.A., II.B., II.C., II,E., II.F., II.I, and II.J

a. To Control Emissions Leaving Colorado

When emissions generated from sources in Colorado cross the State boundary line, such emissions shall not cause the air quality standards of the receiving State to be exceeded, provided reciprocal action is taken by the receiving State.

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

Last Revised: September 24, 2008

b. Emission Monitoring Requirements

The Division may require owners or operators of stationary air pollution sources to install, maintain, and use instrumentation to monitor and record emission data as a basis for periodic reports to the Division.

c. Performance Testing

The owner or operator of any air pollution source shall, upon request of the Division, conduct performance test(s) and furnish the Division a written report of the results of such test(s) in order to determine compliance with applicable emission control regulations. Performance test(s) shall be conducted and the data reduced in accordance with the applicable reference test methods unless the Division:

- (i) specifies or approves, in specific cases, the use of a test method with minor changes in methodology;
- (ii) approves the use of an equivalent method;
- (iii) approves the use of an alternative method the results of which the Division has determined to be adequate for indicating where a specific source is in compliance; or
- (iv) waives the requirement for performance test(s) because the owner or operator of a source has demonstrated by other means to the Division's satisfaction that the affected facility is in compliance with the standard. Nothing in this paragraph shall be construed to abrogate the Commission's or Division's authority to require testing under the Colorado Revised Statutes, Title 25, Article 7 1973, and pursuant to regulations promulgated by the Commission.

Compliance test(s) shall be conducted under such conditions as the Division shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Division such records as may be necessary to determine the conditions of the performance test(s). Operations during period of startup, shutdown, and malfunction shall not constitute representative conditions of performance test(s) unless otherwise specified in the applicable standard.

The owner or operator of an affected facility shall provide the Division thirty days prior notice of the performance test to afford the Division the opportunity to have an observer present. The Division may waive the thirty day notice requirement provided that arrangements satisfactory to the Division are made for earlier testing.

The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

- (i) Sampling ports adequate for test methods applicable to such facility,
- (ii) Safe sampling platform(s),
- (iii) Safe access to sampling platform(s).
- (iv) Utilities for sampling and testing equipment.

Each performance test shall consist of at least three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard the arithmetic mean of results of at least three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Division's approval, be determined using the arithmetic mean of the results of the two other runs.

Nothing in this section shall abrogate the Division's authority to conduct its own performance test(s) if so warranted.

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

Last Revised: September 24, 2008

d. Affirmative Defense Provision for Excess Emissions during Malfunctions

Note that until such time as the U.S. EPA approves this provision into the Colorado State Implementation Plan (SIP), it shall be enforceable only by the State.

An affirmative defense to a claim of violation under these regulations is provided to owners and operators for civil penalty actions for excess emissions during periods of malfunction. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of evidence that:

- (i) The excess emissions were caused by a sudden, unavoidable breakdown of equipment, or a sudden, unavoidable failure of a process to operate in the normal or usual manner, beyond the reasonable control of the owner or operator;
- (ii) The excess emissions did not stem from any activity or event that could have reasonably been foreseen and avoided, or planned for, and could not have been avoided by better operation and maintenance practices;
- (iii) Repairs were made as expeditiously as possible when the applicable emission limitations were being exceeded;
- (iv) The amount and duration of the excess emissions (including any bypass) were minimized to the maximum extent practicable during periods of such emissions;
- (v) All reasonably possible steps were taken to minimize the impact of the excess emissions on ambient air quality;
- (vi) All emissions monitoring systems were kept in operation (if at all possible);
- (vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence;
- (viii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- (ix) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This section is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement; and
- (x) During the period of excess emissions, there were no exceedances of the relevant ambient air quality standards established in the Commissions' Regulations that could be attributed to the emitting source.

The owner or operator of the facility experiencing excess emissions during a malfunction shall notify the division verbally as soon as possible, but no later than noon of the Division's next working day, and shall submit written notification following the initial occurrence of the excess emissions by the end of the source's next reporting period. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to failures to meet federally promulgated performance standards or emission limits, including, but not limited to, new source performance standards and national emission standards for hazardous air pollutants. The affirmative defense provision does not apply to state implementation plan (sip) limits or permit limits that have been set taking into account potential emissions during malfunctions, including, but not necessarily limited to, certain limits with 30-day or longer averaging times, limits that indicate they apply during malfunctions, and limits that indicate they apply at all times or without exception.

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

Last Paris de Santon have 24, 2008

#### e. Circumvention Clause

A person shall not build, erect, install, or use any article, machine, equipment, condition, or any contrivance, the use of which, without resulting in a reduction in the total release of air pollutants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of this regulation. No person shall circumvent this regulation by using more openings than is considered normal practice by the industry or activity in question.

#### f. Compliance Certifications

For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any standard in the Colorado State Implementation Plan, nothing in the Colorado State Implementation Plan shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. Evidence that has the effect of making any relevant standard or permit term more stringent shall not be credible for proving a violation of the standard or permit term.

When compliance or non-compliance is demonstrated by a test or procedure provided by permit or other applicable requirement, the owner or operator shall be presumed to be in compliance or non-compliance unless other relevant credible evidence overcomes that presumption.

g. Affirmative Defense Provision for Excess Emissions During Startup and Shutdown (**State-Only** requirement)

An affirmative defense is provided to owners and operators for civil penalty actions for excess emissions during periods of startup and shutdown. To establish the affirmative defense and to be relieved of a civil penalty in any action to enforce an applicable requirement, the owner or operator of the facility must meet the notification requirements below in a timely manner and prove by a preponderance of the evidence that:

- (i) The periods of excess emissions that occurred during startup and shutdown were short and infrequent and could not have been prevented through careful planning and design;
- (ii) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation or maintenance:
- (iii) If the excess emissions were caused by a bypass (an intentional diversion of control equipment), then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- (iv) The frequency and duration of operation in startup and shutdown periods were minimized to the maximum extent practicable;
- (v) All possible steps were taken to minimize the impact of excess emissions on ambient air quality;
- (vi) All emissions monitoring systems were kept in operation (if at all possible);
- (vii) The owner or operator's actions during the period of excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence; and,
- (viii) At all times, the facility was operated in a manner consistent with good practices for minimizing emissions. This subparagraph is intended solely to be a factor in determining whether an affirmative defense is available to an owner or operator, and shall not constitute an additional applicable requirement.

The owner or operator of the facility experiencing excess emissions during startup and shutdown shall notify the Division verbally as soon as possible, but no later than two (2) hours after the start of the next working day, and shall submit written quarterly notification following the initial occurrence of the excess emissions. The notification shall address the criteria set forth above.

The Affirmative Defense Provision contained in this section shall not be available to claims for injunctive relief.

The Affirmative Defense Provision does not apply to State Implementation Plan provisions or other requirements that derive from new source performance standards (NSPS) or national emissions standards for hazardous air pollutants (NESHAPS), any other federally enforceable performance standard or emission limit with an averaging time greater than twenty-four hours. In addition, an affirmative defense cannot be used by a single source or small group of sources where the excess emissions have the potential to cause an exceedance of the ambient air quality standards or Prevention of Significant Deterioration (PSD) increments.

In making any determination whether a source established an affirmative defense, the Division shall consider the information within the notification required above and any other information the Division deems necessary, which may include, but is not limited to, physical inspection of the facility and review of documentation pertaining to the maintenance and operation of process and air pollution control equipment

#### 4. Compliance Requirements

## Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.C.9., V.C.11. & 16.d., § 25-7-122.1(2), C.R.S.

- a. The permittee must comply with all conditions of the Operating Permit. Any permit noncompliance relating to federally-enforceable terms or conditions constitutes a violation of the federal act, as well as the state act and Regulation No. 3. Any permit noncompliance relating to state-only terms or conditions constitutes a violation of the state act and Regulation No. 3, shall be enforceable pursuant to state law, and shall not be enforceable by citizens under § 304 of the federal act. Any such violation of the federal act, the state act or regulations implementing either statute is grounds for enforcement action, for permit termination, revocation and reissuance or modification or for denial of a permit renewal application.
- b. It shall not be a defense for a permittee in an enforcement action or a consideration in favor of a permittee in a permit termination, revocation or modification action or action denying a permit renewal application that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.
- c. The permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of any request by the permittee for a permit modification, revocation and reissuance, or termination, or any notification of planned changes or anticipated noncompliance does not stay any permit condition, except as provided in §§ X. and XI. of Regulation No. 3, Part C.
- d. The permittee shall furnish to the Air Pollution Control Division, within a reasonable time as specified by the Division, any information that the Division may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Division copies of records required to be kept by the permittee, including information claimed to be confidential. Any information subject to a claim of confidentiality shall be specifically identified and submitted separately from information not subject to the claim.
- e. Any schedule for compliance for applicable requirements with which the source is not in compliance at the time of permit issuance shall be supplemental, and shall not sanction noncompliance with, the applicable requirements on which it is based.
- f. For any compliance schedule for applicable requirements with which the source is not in compliance at the time of permit issuance, the permittee shall submit, at least every 6 months unless a more frequent period is specified in the applicable requirement or by the Air Pollution Control Division, progress reports which contain the following:
  - (i) dates for achieving the activities, milestones, or compliance required in the schedule for compliance, and dates when such activities, milestones, or compliance were achieved; and
  - (ii) an explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.

g. The permittee shall not knowingly falsify, tamper with, or render inaccurate any monitoring device or method required to be maintained or followed under the terms and conditions of the Operating Permit.

#### 5. Emergency Provisions

#### Regulation No. 3, 5 CCR 1001-5, Part C, § VII.

An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed the technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. "Emergency" does not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error. An emergency constitutes an affirmative defense to an enforcement action brought for noncompliance with a technology-based emission limitation if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- a. an emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. the permitted facility was at the time being properly operated;
- c. during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- d. the permittee submitted oral notice of the emergency to the Air Pollution Control Division no later than noon of the next working day following the emergency, and followed by written notice within one month of the time when emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

This emergency provision is in addition to any emergency or malfunction provision contained in any applicable requirement.

#### 6. Emission Standards for Asbestos

#### Regulation No. 8, 5 CCR 1001-10, Part B

The permittee shall not conduct any asbestos abatement activities except in accordance with the provisions of Regulation No. 8, Part B, "emission standards for asbestos."

#### 7. Emissions Trading, Marketable Permits, Economic Incentives

#### Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.13.

No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are specifically provided for in the permit.

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

#### 8. Fee Payment

#### C.R.S. §§ 25-7-114.1(6) and 25-7-114.7

- a. The permittee shall pay an annual emissions fee in accordance with the provisions of § 25-7-114.7. A 1% per month late payment fee shall be assessed against any invoice amounts not paid in full on the 91st day after the date of invoice, unless a permittee has filed a timely protest to the invoice amount.
- b. The permittee shall pay a permit processing fee in accordance with the provisions of § 25-7-114.7. If the Division estimates that processing of the permit will take more than 30 hours, it will notify the permittee of its estimate of what the actual charges may be prior to commencing any work exceeding the 30 hour limit.
- c. The permittee shall pay an APEN fee in accordance with the provisions of § 25-7-114.1(6) for each APEN or revised APEN filed.

#### 9. Fugitive Particulate Emissions

#### Regulation No. 1, 5 CCR 1001-3, § III.D.1.

The permittee shall employ such control measures and operating procedures as are necessary to minimize fugitive particulate emissions into the atmosphere, in accordance with the provisions of Regulation No. 1, § III.D.1.

#### 10. Inspection and Entry

#### Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.16.b.

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Air Pollution Control Division, or any authorized representative, to perform the following:

- a. enter upon the permittee's premises where an Operating Permit source is located, or emissions-related activity is conducted, or where records must be kept under the terms of the permit;
- b. have access to, and copy, at reasonable times, any records that must be kept under the conditions of the permit;
- c. inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the Operating Permit;
- d. sample or monitor at reasonable times, for the purposes of assuring compliance with the Operating Permit or applicable requirements, any substances or parameters.

#### 11. Minor Permit Modifications

#### Regulation No. 3, 5 CCR 1001-5, Part C, §§ X. & XI.

The permittee shall submit an application for a minor permit modification before making the change requested in the application. The permit shield shall not extend to minor permit modifications.

#### 12. New Source Review

#### Regulation No. 3, 5 CCR 1001-5, Part B

The permittee shall not commence construction or modification of a source required to be reviewed under the New Source Review provisions of Regulation No. 3, Part B, without first receiving a construction permit.

### 13. No Property Rights Conveyed

## Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.11.d.

This permit does not convey any property rights of any sort, or any exclusive privilege.

#### 14. Odor

#### Regulation No. 2, 5 CCR 1001-4, Part A

As a matter of state law only, the permittee shall comply with the provisions of Regulation No. 2 concerning odorous emissions.

#### 15. Off-Permit Changes to the Source

#### Regulation No. 3, 5 CCR 1001-5, Part C, § XII.B.

The permittee shall record any off-permit change to the source that causes the emissions of a regulated pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from the change, including any other data necessary to show compliance with applicable ambient air quality standards. The permittee shall provide contemporaneous notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit . The permit shield shall not apply to any off-permit change.

#### 16. Opacity

#### Regulation No. 1, 5 CCR 1001-3, §§ I., II.

The permittee shall comply with the opacity emissions limitation set forth in Regulation No. 1, §§ I.-II.

#### 17. Open Burning

#### Regulation No. 9, 5 CCR 1001-11

The permittee shall obtain a permit from the Division for any regulated open burning activities in accordance with provisions of Regulation No. 9.

#### 18. Ozone Depleting Compounds

#### Regulation No. 15, 5 CCR 1001-17

The permittee shall comply with the provisions of Regulation No. 15 concerning emissions of ozone depleting compounds. Sections I., II.C., II.D., III. IV., and V. of Regulation No. 15 shall be enforced as a matter of state law only.

## 19. Permit Expiration and Renewal

#### Regulation No. 3, 5 CCR 1001-5, Part C, §§ III.B.6., IV.C., V.C.2.

- a. The permit term shall be five (5) years. The permit shall expire at the end of its term. Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted.
- b. Applications for renewal shall be submitted at least twelve months, but not more than 18 months, prior to the expiration of the Operating Permit. An application for permit renewal may address only those portions of the permit that require revision, supplementing, or deletion, incorporating the remaining permit terms by reference from the previous permit. A copy of any materials incorporated by reference must be included with the application.

#### 20. Portable Sources

### Regulation No. 3, 5 CCR 1001-5, Part C, § II.D.

Portable Source permittees shall notify the Air Pollution Control Division at least 10 days in advance of each change in location.

#### 21. Prompt Deviation Reporting

#### Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.7.b.

The permittee shall promptly report any deviation from permit requirements, including those attributable to malfunction conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken.

"Prompt" is defined as follows:

- a. Any definition of "prompt" or a specific timeframe for reporting deviations provided in an underlying applicable requirement as identified in this permit; or
- b. Where the underlying applicable requirement fails to address the time frame for reporting deviations, reports of deviations will be submitted based on the following schedule:
  - (i) For emissions of a hazardous air pollutant or a toxic air pollutant (as identified in the applicable regulation) that continue for more than an hour in excess of permit requirements, the report shall be made within 24 hours of the occurrence;
  - (ii) For emissions of any regulated air pollutant, excluding a hazardous air pollutant or a toxic air pollutant that continue for more than two hours in excess of permit requirements, the report shall be made within 48 hours; and
  - (iii) For all other deviations from permit requirements, the report shall be submitted every six (6) months, except as otherwise specified by the Division in the permit in accordance with paragraph 22.d. below.
- c. If any of the conditions in paragraphs b.i or b.ii above are met, the source shall notify the Division by telephone (303-692-3155) or facsimile (303-782-0278) based on the timetables listed above. [Explanatory note: Notification by telephone or facsimile must specify that this notification is a deviation report for an Operating Permit.] A written notice, certified consistent with General Condition 2.a. above (Certification Requirements), shall be submitted within 10 working days of the occurrence. All deviations reported under this section shall also be identified in the 6-month report required above.

"Prompt reporting" does not constitute an exception to the requirements of "Emergency Provisions" for the purpose of avoiding enforcement actions.

### 22. Record Keeping and Reporting Requirements

## Regulation No. 3, 5 CCR 1001-5, Part A, § II.; Part C, §§ V.C.6., V.C.7.

- a. Unless otherwise provided in the source specific conditions of this Operating Permit, the permittee shall maintain compliance monitoring records that include the following information:
  - (i) date, place as defined in the Operating Permit, and time of sampling or measurements;
  - (ii) date(s) on which analyses were performed;

- (iii) the company or entity that performed the analysis;
- (iv) the analytical techniques or methods used;
- (v) the results of such analysis; and
- (vi) the operating conditions at the time of sampling or measurement.
- b. The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report or application. Support information, for this purpose, includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the Operating Permit. With prior approval of the Air Pollution Control Division, the permittee may maintain any of the above records in a computerized form.
- c. Permittees must retain records of all required monitoring data and support information for the most recent twelve (12) month period, as well as compliance certifications for the past five (5) years on-site at all times. A permittee shall make available for the Air Pollution Control Division's review all other records of required monitoring data and support information required to be retained by the permittee upon 48 hours advance notice by the Division.
- d. The permittee shall submit to the Air Pollution Control Division all reports of any required monitoring at least every six (6) months, unless an applicable requirement, the enhanced monitoring rule, or the Division requires submission on a more frequent basis. All instances of deviations from any permit requirements must be clearly identified in such reports.
- e. The permittee shall file an Air Pollutant Emissions Notice ("APEN") prior to constructing, modifying, or altering any facility, process, activity which constitutes a stationary source from which air pollutants are or are to be emitted, unless such source is exempt from the APEN filing requirements of Regulation No. 3, Part A, § II.D. A revised APEN shall be filed annually whenever a significant change in emissions, as defined in Regulation No. 3, Part A, § II.C.2., occurs; whenever there is a change in owner or operator of any facility, process, or activity; whenever new control equipment is installed; whenever a different type of control equipment replaces an existing type of control equipment; whenever a permit limitation must be modified; or before the APEN expires. An APEN is valid for a period of five years. The five-year period recommences when a revised APEN is received by the Air Pollution Control Division. Revised APENs shall be submitted no later than 30 days before the five-year term expires. Permittees submitting revised APENs to inform the Division of a change in actual emission rates must do so by April 30 of the following year. Where a permit revision is required, the revised APEN must be filed along with a request for permit revision. APENs for changes in control equipment must be submitted before the change occurs. Annual fees are based on the most recent APEN on file with the Division.

#### 23. Reopenings for Cause

#### Regulation No. 3, 5 CCR 1001-5, Part C, § XIII.

- a. The Air Pollution Control Division shall reopen, revise, and reissue Operating Permits; permit reopenings and reissuance shall be processed using the procedures set forth in Regulation No. 3, Part C, § III., except that proceedings to reopen and reissue permits affect only those parts of the permit for which cause to reopen exists.
- b. The Division shall reopen a permit whenever additional applicable requirements become applicable to a major source with a remaining permit term of three or more years, unless the effective date of the requirements is later than the date on which the permit expires, or unless a general permit is obtained to address the new requirements; whenever additional requirements (including excess emissions requirements) become applicable to an affected source under the acid rain program; whenever the Division determines the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or whenever the Division determines that the permit must be revised or revoked to assure compliance with an applicable requirement.

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

Locat Positional: Southern 24, 2008

- c. The Division shall provide 30 days' advance notice to the permittee of its intent to reopen the permit, except that a shorter notice may be provided in the case of an emergency.
- d. The permit shield shall extend to those parts of the permit that have been changed pursuant to the reopening and reissuance procedure.

#### **24.** Section 502(b)(10) Changes

#### Regulation No. 3, 5 CCR 1001-5, Part C, § XII.A.

The permittee shall provide a minimum 7-day advance notification to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit. The permittee shall attach a copy of each such notice given to its Operating Permit.

#### 25. Severability Clause

### Regulation No. 3, 5 CCR 1001-5, Part C, § V.C.10.

In the event of a challenge to any portion of the permit, all emissions limits, specific and general conditions, monitoring, record keeping and reporting requirements of the permit, except those being challenged, remain valid and enforceable.

### 26. Significant Permit Modifications

#### Regulation No. 3, 5 CCR 1001-5, Part C, § III.B.2.

The permittee shall not make a significant modification required to be reviewed under Regulation No. 3, Part B ("Construction Permit" requirements) without first receiving a construction permit. The permittee shall submit a complete Operating Permit application or application for an Operating Permit revision for any new or modified source within twelve months of commencing operation, to the address listed in Item 1 in Appendix D of this permit. If the permittee chooses to use the "Combined Construction/Operating Permit" application procedures of Regulation No. 3, Part C, then the Operating Permit must be received prior to commencing construction of the new or modified source.

## 27. Special Provisions Concerning the Acid Rain Program

#### Regulation No. 3, 5 CCR 1001-5, Part C, §§ V.C.1.b. & 8

- a. Where an applicable requirement of the federal act is more stringent than an applicable requirement of regulations promulgated under Title IV of the federal act, 40 Code of Federal Regulations (CFR) Part 72, both provisions shall be incorporated into the permit and shall be federally enforceable.
- b. Emissions exceeding any allowances that the source lawfully holds under Title IV of the federal act or the regulations promulgated thereunder, 40 CFR Part 72, are expressly prohibited.

#### 28. Transfer or Assignment of Ownership

## Regulation No. 3, 5 CCR 1001-5, Part C, § II.C.

No transfer or assignment of ownership of the Operating Permit source will be effective unless the prospective owner or operator applies to the Air Pollution Control Division on Division-supplied Administrative Permit Amendment forms, for reissuance of the existing Operating Permit. No administrative permit shall be complete until a written agreement containing a specific date for transfer of permit, responsibility, coverage, and liability between the permittee and the prospective owner or operator has been submitted to the Division.

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

#### 29. Volatile Organic Compounds

#### Regulation No. 7, 5 CCR 1001-9, §§ III & V.

a. For sources located in an ozone non-attainment area or the Denver Metro Attainment Maintenance Area, all storage tank gauging devices, anti-rotation devices, accesses, seals, hatches, roof drainage systems, support structures, and pressure relief valves shall be maintained and operated to prevent detectable vapor loss except when opened, actuated, or used for necessary and proper activities (e.g. maintenance). Such opening, actuation, or use shall be limited so as to minimize vapor loss.

Detectable vapor loss shall be determined visually, by touch, by presence of odor, or using a portable hydrocarbon analyzer. When an analyzer is used, detectable vapor loss means a VOC concentration exceeding 10,000 ppm. Testing shall be conducted as in Regulation No. 7, Section VIII.C.3.

Except when otherwise provided by Regulation No. 7, all volatile organic compounds, excluding petroleum liquids, transferred to any tank, container, or vehicle compartment with a capacity exceeding 212 liters (56 gallons), shall be transferred using submerged or bottom filling equipment. For top loading, the fill tube shall reach within six inches of the bottom of the tank compartment. For bottom-fill operations, the inlet shall be flush with the tank bottom.

- b. The permittee shall not dispose of volatile organic compounds by evaporation or spillage unless Reasonably Available Control Technology (RACT) is utilized.
- c. No owner or operator of a bulk gasoline terminal, bulk gasoline plant, or gasoline dispensing facility as defined in Colorado Regulation No. 7, Section VI, shall permit gasoline to be intentionally spilled, discarded in sewers, stored in open containers, or disposed of in any other manner that would result in evaporation.

#### 30. Wood Stoves and Wood burning Appliances

Regulation No. 4, 5 CCR 1001-6

The permittee shall comply with the provisions of Regulation No. 4 concerning the advertisement, sale, installation, and use of wood stoves and wood burning appliances.

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

# **OPERATING PERMIT APPENDICES**

- A INSPECTION INFORMATION
- **B MONITORING AND PERMIT DEVIATION REPORT**
- C COMPLIANCE CERTIFICATION REPORT
- D NOTIFICATION ADDRESSES
- **E PERMIT ACRONYMS**
- F PERMIT MODIFICATIONS

## \*DISCLAIMER:

None of the information found in these Appendices shall be considered to be State or Federally enforceable, except as otherwise provided in the permit, and is presented to assist the source, permitting authority, inspectors, and citizens.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

## **APPENDIX A - Inspection Information**

#### **Directions to Plant**

The facility is located at 2601 South Platte River Drive, in Denver.

## **Safety Equipment Required**

Eye Protection, Hard Hat, Safety Shoes and Heating Protection

## **Facility Plot Plan**

Figure 1 (following page) shows the plot plan as submitted on July 31, 2001 with the source's Title V Operating Permit Application.

## **List of Insignificant Activities**

The following list of insignificant activities was provided by the source. Since there is no requirement to update such a list, activities may have changed since the last filing.

Each individual piece of fuel burning equipment, other than smokehouse generators and internal combustion engines, which uses gaseous fuel, and which has a design rate less than or equal to 5 million Btu per hour. (See definition of fuel burning equipment, Common Provisions Regulation).

Chemical storage tanks or containers that hold less than 500 gallons, and which have a daily throughput less than 25 gallons.

Landscaping and site housekeeping devices equal to or less than 10 H.P. in size (lawnmowers, trimmers, snow blowers, etc.).

Chemical storage areas where chemicals are stored in closed containers, and where total storage capacity does not exceed 5000 gallons. This exemption applies solely to storage of such chemicals. This exemption does not apply to transfer of chemicals from, to, or between such containers.

Storage tanks of capacity <40,000 gallons of lubricating oils.

Storage tanks meeting all of the following criteria:

- (i) annual throughput is less than 400,000 gallons; and
- (ii) the liquid stored is one of the following:

diesel fuels 1-D, 2-D, or 4-D; fuel oils #1 through #6; gas turbine fuels 1-GT through 4-GT;

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

an oil/water mixture with a vapor pressure lower than that of diesel fuel (Reid vapor pressure of .025 psia)

Each individual piece of fuel burning equipment which uses gaseous fuel, and which has a design rate less than or equal to 10 million Btu per hour, and which is use solely for heating buildings for personal comfort.

Air pollution emission units, operations or activities with emissions less than the appropriate de minimis reporting level.

Specific Insignificant activities and/or sources of emissions as identified in the application:

Oil/Water Separator

Raw and Treated Water storage

Lube Oil storage

Small quantity fuel storage (for miscellaneous equipment)

Used Oil storage

Station Transformers and associated oils

Maintenance Activities

Welding operations

Warehouse storage

Landscaping maintenance equipment and activities

Use of pesticides, fumigants and herbicides

Laboratory activities

Housekeeping activities

General Office activities

Steam vents

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

This Page Intentionally Left Blank

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

#### APPENDIX B

## **Reporting Requirements and Definitions**

with codes ver 2/20/07

Please note that, pursuant to 113(c)(2) of the federal Clean Air Act, any person who knowingly:

- (A) makes any false material statement, representation, or certification in, or omits material information from, or knowingly alters, conceals, or fails to file or maintain any notice, application, record, report, plan, or other document required pursuant to the Act to be either filed or maintained (whether with respect to the requirements imposed by the Administrator or by a State);
- (B) fails to notify or report as required under the Act; or
- (C) falsifies, tampers with, renders inaccurate, or fails to install any monitoring device or method required to be maintained or followed under the Act shall, upon conviction, be punished by a fine pursuant to title 18 of the United States Code, or by imprisonment for not more than 2 years, or both. If a conviction of any person under this paragraph is for a violation committed after a first conviction of such person under this paragraph, the maximum punishment shall be doubled with respect to both the fine and imprisonment.

The permittee must comply with all conditions of this operating permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

The Part 70 Operating Permit program requires three types of reports to be filed for all permits. All required reports must be certified by a responsible official.

## **Report #1: Monitoring Deviation Report** (due at least every six months)

For purposes of this operating permit, the Division is requiring that the monitoring reports are due every six months unless otherwise noted in the permit. All instances of deviations from permit monitoring requirements must be clearly identified in such reports.

For purposes of this operating permit, monitoring means any condition determined by observation, by data from any monitoring protocol, or by any other monitoring which is required by the permit as well as the recordkeeping associated with that monitoring. This would include, for example, fuel use or process rate monitoring, fuel analyses, and operational or control device parameter monitoring.

## **Report #2: Permit Deviation Report (must be reported "promptly")**

In addition to the monitoring requirements set forth in the permits as discussed above, each and every requirement of the permit is subject to deviation reporting. The reports must address deviations from permit requirements, including those attributable to malfunctions as defined in this Appendix, the probable cause of

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

such deviations, and any corrective actions or preventive measures taken. All deviations from any term or condition of the permit are required to be summarized or referenced in the annual compliance certification.

For purposes of this operating permit, "malfunction" shall refer to both emergency conditions and malfunctions. Additional discussion on these conditions is provided later in this Appendix.

For purposes of this operating permit, the Division is requiring that the permit deviation reports are due as set forth in General Condition 21. Where the underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, that definition or time frame shall govern. For example, quarterly Excess Emission Reports required by an NSPS or Regulation No. 1, Section IV.

In addition to the monitoring deviations discussed above, included in the meaning of deviation for the purposes of this operating permit are any of the following:

- (1) A situation where emissions exceed an emission limitation or standard contained in the permit;
- (2) A situation where process or control device parameter values demonstrate that an emission limitation or standard contained in the permit has not been met;
- (3) A situation in which observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit; or,
- (4) A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only if the emission point is subject to CAM)

For reporting purposes, the Division has combined the Monitoring Deviation Report with the Permit Deviation Report. All deviations shall be reported using the following codes:

1 = Standard: When the requirement is an emission limit or standard 2 = Process: When the requirement is a production/process limit

3 = Monitor: When the requirement is monitoring 4 = Test: When the requirement is testing

5 = Maintenance: When required maintenance is not performed
 6 = Record: When the requirement is recordkeeping
 7 = Report: When the requirement is reporting

8 = CAM: A situation in which an excursion or exceedance as defined in 40CFR Part 64 (the

Compliance Assurance Monitoring (CAM) Rule) has occurred.

**9 = Other:** When the deviation is not covered by any of the above categories

## **Report #3: Compliance Certification (annually, as defined in the permit)**

Submission of compliance certifications with terms and conditions in the permit, including emission limitations, standards, or work practices, is required not less than annually.

Compliance Certifications are intended to state the compliance status of each requirement of the permit over the certification period. They must be based, at a minimum, on the testing and monitoring methods specified in the permit that were conducted during the relevant time period. In addition, if the owner or operator knows of other

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

material information (i.e. information beyond required monitoring that has been specifically assessed in relation to how the information potentially affects compliance status), that information must be identified and addressed in the compliance certification. The compliance certification must include the following:

- The identification of each term or condition of the permit that is the basis of the certification;
- Whether or not the method(s) used by the owner or operator for determining the compliance status with each permit term and condition during the certification period was the method(s) specified in the permit. Such methods and other means shall include, at a minimum, the methods and means required in the permit. If necessary, the owner or operator also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Federal Clean Air Act, which prohibits knowingly making a false certification or omitting material information;
- The status of compliance with the terms and conditions of the permit, and whether compliance was continuous or intermittent. The certification shall identify each deviation and take it into account in the compliance certification. Note that not all deviations are considered violations.
- Such other facts as the Division may require, consistent with the applicable requirements to which the source is subject, to determine the compliance status of the source.

The Certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 (the Compliance Assurance Monitoring (CAM) Rule) has occurred. (only for emission points subject to CAM)

Note the requirement that the certification shall identify each deviation and take it into account in the compliance certification. Previously submitted deviation reports, including the deviation report submitted at the time of the annual certification, may be referenced in the compliance certification.

## Startup, Shutdown, Malfunctions and Emergencies

Understanding the application of Startup, Shutdown, Malfunctions and Emergency Provisions, is very important in both the deviation reports and the annual compliance certifications.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

\_

<sup>&</sup>lt;sup>1</sup> For example, given the various emissions limitations and monitoring requirements to which a source may be subject, a deviation from one requirement may not be a deviation under another requirement which recognizes an exception and/or special circumstances relating to that same event.

## Startup, Shutdown, and Malfunctions

Please note that exceedances of some New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) standards that occur during Startup, Shutdown or Malfunctions may not be considered to be non-compliance since emission limits or standards often do not apply unless specifically stated in the NSPS. Such exceedances must, however, be reported as excess emissions per the NSPS/MACT rules and would still be noted in the deviation report. In regard to compliance certifications, the permittee should be confident of the information related to those deviations when making compliance determinations since they are subject to Division review. The concepts of Startup, Shutdown and Malfunctions also exist for Best Available Control Technology (BACT) sources, but are not applied in the same fashion as for NSPS and MACT sources.

### **Emergency Provisions**

Under the Emergency provisions of Part 70 certain operational conditions may act as an affirmative defense against enforcement action if they are properly reported.

#### **DEFINITIONS**

**Malfunction** (NSPS) means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

**Malfunction** (SIP) means any sudden and unavoidable failure of air pollution control equipment or process equipment or unintended failure of a process to operate in a normal or usual manner. Failures that are primarily caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

**Emergency** means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

## **Monitoring and Permit Deviation Report - Part I**

- 1. Following is the **required** format for the Monitoring and Permit Deviation report to be submitted to the Division as set forth in General Condition 21. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.
- 2. Part II of this Appendix B shows the format and information the Division will require for describing periods of monitoring and permit deviations, or malfunction or emergency conditions as indicated in the Table below. One Part II Form must be completed for each Deviation. Previously submitted reports (e.g. EER's or malfunctions) may be referenced and the form need not be filled out in its entirety.

FACILITY NAME: SWG Colorado L.L.C.	<ul> <li>Arapahoe Combustion Turbine Facility</li> </ul>
OPERATING PERMIT NO: 010PDE237	
REPORTING PERIOD:	(see first page of the permit for specific reporting period and dates)

		Devia Noted I Perio	During	Deviation Code <sup>2</sup>	Upset/Em Condition During	Reported
Operating Permit Unit ID	Unit Description	YES	NO		YES	NO
CT005 & CT006	Two General Electric, Model LM6000 Natural Gas Fired Combustion Turbines, Each Rated at mmBtu/hr, Serial Numbers: 191-146 (S005) and 191-145 (S006). Each turbine is Equipped with One (1) HRSG, Natural Gas Fired Duct Burner, Each Rated at 124.7 mmBtu/hr.					
BG005 & BG006	Two diesel fired (1600 KW) backfeed generators for turbine startup.					
CL007	Cooling Tower, Model No. W489-5.0-4, Rated at 37,360 GPM.					
	General Conditions					
	Insignificant Activities					

<sup>&</sup>lt;sup>1</sup> See previous discussion regarding what is considered to be a deviation. Determination of whether or not a deviation has occurred shall be based on a reasonable inquiry using readily available information.

1 = Standard: When the requirement is an emission limit or standard 2 = Process:When the requirement is a production/process limit

3 = Monitor: When the requirement is monitoring **4** = Test: When the requirement is testing

When required maintenance is not performed **5** = Maintenance: 6 = Record:When the requirement is recordkeeping 7 = Report:When the requirement is reporting

8 = CAM: A situation in which an excursion or exceedance as defined in 40 CFR Part 64 (the Compliance Assurance

Monitoring (CAM) Rule) has occurred.

9 = Other: When the deviation is not covered by any of the above categories

Operating Permit Number: 01OPDE237 **Issued: July 1, 2005** 

<sup>&</sup>lt;sup>2</sup> Use the following entries, as appropriate:

## **Monitoring and Permit Deviation Report - Part II**

FACILITY NAME: SWG Colorado L.L.C. OPERATING PERMIT NO: 010PDE237 REPORTING PERIOD:	. – Arapahoe Combu	stion Turbine Facil	ity
Is the deviation being claimed as an:	Emergency	Malfunction_	N/A
(For NSPS/MACT) Did the deviation occur during:	Startup Normal Operation	Shutdown	Malfunction
OPERATING PERMIT UNIT IDENTIFICATION:			
Operating Permit Condition Number Citation			
Explanation of Period of Deviation			
<u>Duration (start/stop date &amp; time)</u>			
Action Taken to Correct the Problem			
Measures Taken to Prevent a Reoccurrence of the Pr	roblem		
Dates of Malfunctions/Emergencies Reported (if app	olicable)		
Deviation Code	Division Code QA:		

SEE EXAMPLE ON THE NEXT PAGE

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

# **EXAMPLE**

FACILITY NAME: OPERATING PERMIT NO: REPORTING PERIOD:					
Is the deviation being claimed	d as an:	Emergency	Malfunction	XX	N/A
(For NSPS/MACT) Did the d	leviation occur during:	Startup Normal Operation			tion
OPERATING PERMIT UNI	T IDENTIFICATION:				
Asphalt Plant with a Scrubbe	r for Particulate Contro	l - Unit XXX			
Operating Permit Condition N	Number Citation				
Section II, Condition 3.1 - Op	pacity Limitation				
Explanation of Period of Dev	riation				
Slurry Line Feed Plugged					
<u>Duration</u>					
START- 1730 4/10/06 END- 1800 4/10/06					
Action Taken to Correct the I	<u>Problem</u>				
Line Blown Out					
Measures Taken to Prevent R	eoccurrence of the Pro	<u>blem</u>			
Replaced Line Filter					
Dates of Malfunction/Emerge	encies Reported (if appl	licable)			
5/30/06 to H. Flashman, APC	CD				
Deviation Code			Division Code Q	QA:	

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

## **Monitoring and Permit Deviation Report - Part III**

## REPORT CERTIFICATION

FACILITY IDENTIFICATION NUMBER: 031	pahoe Combustion Turbine Facility 0008
PERMIT NUMBER: 01OPDE237	
REPORTING PERIOD: (see	e first page of the permit for specific reporting period and dates)
	viation Reports must be certified by a responsible official as ection I.B.38. This signed certification document must be
STATEMENT OF COMPLETENESS	
_	ted in its entirety and, based on information and belief the statements and information contained in this submittal
1-501(6), C.R.S., makes any false material sta	nat any person who knowingly, as defined in Sub-Section 18- natement, representation, or certification in this document is ned in accordance with the provisions of Sub-Section 25-7
	Providence of Substitution and
	Title
122.1, C.R.S.	
Printed or Typed Name  Signature of Responsible Official	Title  Date Signed  o the Division at the address given in Appendix D of this
Printed or Typed Name  Signature of Responsible Official  Note: Deviation reports shall be submitted to	Title  Date Signed  o the Division at the address given in Appendix D of this

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

## **APPENDIX C**

## **Required Format for Annual Compliance Certification Reports**

with codes ver 2/20/07

Following is the format for the Compliance Certification report to be submitted to the Division and the U.S. EPA annually based on the effective date of the permit. The Table below must be completed for all equipment or processes for which specific Operating Permit terms exist.

OF	CILITY NA PERATING I	PERMIT NO: 01OP		C. – Arapahoe Comb	oustion Turbin	e Facility	
I.	Facility	Status					
	the Permit,	entire reporting peri each term and condi ine compliance is/are	ition of which i	s identified and inc	cluded by this		
winco inco me	th all terms cluded by the thod used to	ossible exception of and conditions consist reference, with the determine compliant eated and described in	tained in the P ne possible exce nce for each terr	ermit, each term a eption of the deviate and condition is t	nd condition of tions identified he method spe	of which is identified in the table be cified in the Per	ntified and elow. The mit, unless
	Operating	Unit Description		Deviations	Monitoring	Was Complian	

Operating Permit Unit	Unit Description	Deviations Reported <sup>1</sup>		Monitoring Method per Permit? <sup>2</sup>		d per Continuous or	
		Previous	Current	YES	NO	Continuous	Intermittent
CT005 & CT006	Two General Electric, Model LM6000 Natural Gas Fired Combustion Turbines, Each Rated at mmBtu/hr, Serial Numbers: 191-146 (S005) and 191-145 (S006). Each turbine is Equipped with One (1) HRSG, Natural Gas Fired Duct Burner, Each Rated at 124.7 mmBtu/hr.						
BG005 & BG006	Two diesel fired (1600 KW) backfeed generators for turbine startup.						
CL007	Cooling Tower, Model No. W489-5.0-4, Rated at 37,360 GPM.						
	General Conditions						
Insignificant Activities <sup>4</sup>							

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

<sup>3</sup>Note whether the compliance status with of each term and condition provided was continuous or intermittent. "Intermittent Compliance" can mean either that noncompliance has occurred or that the owner or operator has data sufficient to certify compliance only on an intermittent basis. Certification of intermittent compliance therefore does not necessarily mean that any noncompliance has occurred

#### NOTE:

The Periodic Monitoring requirements of the Operating Permit program rule are intended to provide assurance that even in the absence of a continuous system of monitoring the Title V source can demonstrate whether it has operated in continuous compliance for the duration of the reporting period. Therefore, if a source 1) conducts all of the monitoring and recordkeeping required in its permit, even if such activities are done periodically and not continuously, and if 2) such monitoring and recordkeeping does not indicate non-compliance, and if 3) the Responsible Official is not aware of any credible evidence that indicates non-compliance, then the Responsible Official can certify that the emission point(s) in question were in continuous compliance during the applicable time period.

Operating Permit Number: 01OPDE237

Issued: July 1, 2005

<sup>&</sup>lt;sup>1</sup> If deviations were noted in a previous deviation report, put an "X" under "previous". If deviations were noted in the current deviation report (i.e. for the last six months of the annual reporting period), put an "X" under "current". Mark both columns if both apply.

<sup>&</sup>lt;sup>2</sup> Note whether the method(s) used to determine the compliance status with each term and condition was the method(s) specified in the permit. If it was not, mark "no" and attach additional information/explanation.

<sup>&</sup>lt;sup>4</sup> Compliance status for these sources shall be based on a reasonable inquiry using readily available information

II.				
	A.		facility is subject is not subject to the prention Program (Section 112(r) of the Federal Clean Air A	
	B.		oject: The facility is is not in compon 112(r).	liance with all the requirements of
		1.	A Risk Management Plan will be ha authority and/or the designated central location by the	
III.	Certif	ication		
reaso		nquiry	his certification in its entirety and, based on infor , I certify that the statements and information contai dete.	
C.R.S	., make	es any	e Colorado Statutes state that any person who knowi false material statement, representation, or certificati may be punished in accordance with the provisions of	on in this document is guilty of a
		Printe	ed or Typed Name	Title
		S	Signature	Date Signed

**NOTE:** All compliance certifications shall be submitted to the Air Pollution Control Division and to the Environmental Protection Agency at the addresses listed in Appendix D of this Permit.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

#### APPENDIX D

#### **Notification Addresses**

#### 1. **Air Pollution Control Division**

Colorado Department of Public Health and Environment Air Pollution Control Division Operating Permits Unit APCD-SS-B1 4300 Cherry Creek Drive S. Denver, CO 80246-1530

ATTN: Jim King

## 2. United States Environmental Protection Agency

Compliance Notifications:

Office of Enforcement, Compliance and Environmental Justice Mail Code 8ENF-T U.S. Environmental Protection Agency, Region VIII 1595 Wynkoop Street Denver, CO 80202-1129

Permit Modifications, Off Permit Changes:

Office of Partnerships and Regulatory Assistance Air and Radiation Programs, 8P-AR U.S. Environmental Protection Agency, Region VIII 1595 Wynkoop Street Denver, CO 80202-1129

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

Acid Rain Quarterly and Annual Reports (Electronic) and Compliance Certifications:

<u>Note:</u> Quarterly Reports are sent to EPA electronically. Quarterly Compliance Certifications and/or any cover letter accompanying a quarterly report may be sent either electronically or as a hard copy. Annual compliance certifications are submitted as a hard copy. Listed below are the addresses for hard copy submissions.

## Regular or Certified Mail:

U.S. EPA
Clean Air Markets Division
Acid Rain Program (6204N)
Attention: Annual Reconciliation or Quarterly Report, as appropriate
1200 Pennsylvania Avenue, NW
Washington, D. C. 20460

## Overnight Mail:

Clean Air Markets Division Acid Rain Program (6204N) Attention: Annual Reconciliation or Quarterly Report, as appropriate 633 3<sup>rd</sup> Street, NW Washington, D. C. 20001

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

## **APPENDIX E**

## **Permit Acronyms**

## Listed Alphabetically:

NSPS -

P -

PE -

PM -

AIRS -	Aerometric Information Retrieval System
AP-42-	EPA Document Compiling Air Pollutant Emission Factors
APEN -	Air Pollution Emission Notice (State of Colorado)
APCD -	Air Pollution Control Division (State of Colorado)
ASTM -	American Society for Testing and Materials
BACT -	Best Available Control Technology
BTU -	British Thermal Unit
CAA -	Clean Air Act (CAAA = Clean Air Act Amendments)
CCR -	Colorado Code of Regulations
CEM -	Continuous Emissions Monitor
CF -	Cubic Feet (SCF = Standard Cubic Feet)
CFR -	Code of Federal Regulations
CO -	Carbon Monoxide
COM -	Continuous Opacity Monitor
CRS -	Colorado Revised Statute
EF -	Emission Factor
EPA -	Environmental Protection Agency
FI -	Fuel Input Rate in Lbs/mmBtu
FR -	Federal Register
G -	Grams
Gal -	Gallon
GPM -	Gallons per Minute
HAPs -	Hazardous Air Pollutants
HP -	Horsepower
HP-HR -	Horsepower Hour (G/HP-HR = Grams per Horsepower Hour)
LAER -	Lowest Achievable Emission Rate
LBS -	Pounds
M -	Thousand
MM -	Million
MMscf -	Million Standard Cubic Feet
MMscfd -	Million Standard Cubic Feet per Day
N -	Normal Operation, as referenced in permit limitation table in Section II.1
N/A or NA -	11
NO <sub>X</sub> -	Nitrogen Oxides
NESHAP -	National Emission Standards for Hazardous Air Pollutants

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

New Source Performance Standards Process Weight Rate in Tons/Hr

Particulate Emissions

Particulate Matter

 $PM_{10}$  -

10	1 41 11 11 11 11 11 11 11 11 11 11 11 11
PPM -	Parts Per Million
PPMV -	Parts Per Million, by Volume
PPMVD -	Parts per Million, by Volume, Dry
PSD -	Prevention of Significant Deterioration
PTE -	Potential To Emit
RACT -	Reasonably Available Control Technology
SCC -	Source Classification Code
SCF -	Standard Cubic Feet
SD -	Shutdown, as referenced in permit limitation table in Section II.1
SIC -	Standard Industrial Classification

Particulate Matter Under 10 Microns

SO<sub>2</sub> - Sulfur Dioxide

SU - Start-Up, as referenced in permit limitation table in Section II.1

TPY - Tons Per Year

TSP - Total Suspended Particulate VOC - Volatile Organic Compounds

Operating Permit Number: 01OPDE237 Issued: July 1, 2005

## APPENDIX F

## **Permit Modifications**

DATE OF REVISION	MODIFICATION TYPE	SECTION NUMBER, CONDITION NUMBER	DESCRIPTION OF REVISION
September 24, 2008	Administrative Modification	Page following Cover Page	Changed Responsible Official, Permit Contact and Issued to fields
		Section I, Condition 1.1	Revised description to reflect transfer of ownership and ozone nonattainment status for the area
		Section I, Condition 1.4	Added Section V, condition 3.d as a state-only condition in Condition 1.4
		Section II, Condition 1.2.1	Deleted the term "saturated" from Condition 1.2.1
		Section III	Updated the designated representative for the acid rain program (in accordance with information reported to EPA Clan Air Markets Division)
		Section V	The upset revisions in the Common Provisions Regulation (general condition 3.d) were revised December 15, 2006 (effective March 7, 2007) and the revisions were included in the permit. Note that these provisions are state-only enforceable until approved by EPA into Colorado's state implementation plan (SIP). Replaced the reference to "upset" in Condition 5 (emergency provisions), and updated the language in Condition 21 (prompt deviation reporting) with the latest version. Added language in condition 3.f related to credible evidence for compliance certification.
		Appendices	Replaced Appendices B and C with the latest version. Updated the addresses in Appendix D.

Operating Permit Number: 01OPDE237 Issued: July 1, 2005